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THE  
ROYAL SOCIETY,  
IN THE  
NINETEENTH CENTURY.

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THE  
ROYAL SOCIETY  
IN THE XIXTH. CENTURY,  
BEING  
A STATISTICAL SUMMARY OF ITS LABOURS  
DURING THE LAST THIRTY-FIVE YEARS.

WITH  
*Many original Tables and Official Documents,*  
(NEVER BEFORE PUBLISHED)

SHEWING  
THE CONSTITUTION OF THE SOCIETY—THE CHARACTER OF ITS FELLOWS—ITS  
VARIOUS PROCEEDINGS—AND PECUNIARY EXPENDITURE  
FOR  
“IMPROVING NATURAL KNOWLEDGE;”  
AND  
*A PLAN FOR ITS REFORM.*

---

TO WHICH ARE ADDED,  
*Alphabetical and Seniority Lists of the Fellows*  
SINCE THE YEAR 1800.  
(ARRANGED PURPOSELY FOR THIS OCCASION.)

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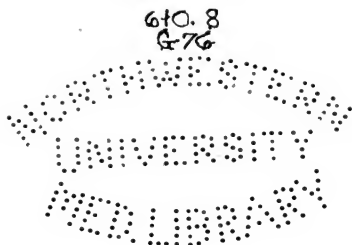
BY  
A. B. GRANVILLE, M.D. F.R.A.S. F.G.S. M.R.I.  
§c. §c. §c.  
ONE OF THE CONTRIBUTORS TO THE PHILOSOPHICAL TRANSACTIONS, AND FOR THE  
LAST EIGHTEEN YEARS FELLOW OF THE SOCIETY.

L O N D O N :  
PRINTED FOR THE AUTHOR,  
AND TO BE HAD ONLY AT  
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SOHO.

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MDCCCXXXVI.

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## ADVERTISEMENT.

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THOSE of my readers who took an interest in the feuds which shook the government stool of the Royal Society five years ago, will recognize, in the body of the present work, a considerable portion of an anonymous publication, which appeared on that eventful occasion, and which not a little contributed to decide the raging contest between the Guelphs and the Ghibelines, the Bianchi and the Negri of that learned body. The decision was, in the main, such as the author and the party with whom he had been acting could wish; and the real friends of the Society have had ample cause to acknowledge its propriety. The choice of a HEAD to the Royal Society, the representative of British SCIENCE; and the settlement of the question, whether a Royal Prince, well known for his love and patronage of the arts and sciences, with an influence equal to his willingness to exert it on behalf of those who cultivate "natural knowledge;" or a Philosopher of powerful talents and universal reputation, but without some of the many qualifications which were peculiar to the position in society of his illustrious competitor, was the most likely to benefit the learned body over which he was to be called to preside,—were the

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subjects of the great struggle in 1830. The rule of the mere lover of science, with great influence and patronage; as well as that of the purely scientific president, had been well experimented by the Fellows during the preceding fifty years; and it appeared to a majority of them, of whom I confess myself to have been one, that the contrast of the two periods gave a balance of favor, as far as the interests of the Royal Society were concerned, to that of the former.—Hence, and under such a conviction, they supported, and successfully raised to the Chair, the illustrious Prince who now presides over us.

The anonymous work by which I humbly endeavoured to contribute, on my part, in bringing about a consummation deemed so desirable—had, however, another and equally legitimate, as well as important, object. It was intended as a reply to two publications which proclaimed the decadence of science in England, and brought forward serious charges against the leading officers of the Society. One of those publications was a work of no ordinary merit, and both were from men, who have deserved well of science, and whose allegations were not to be passed over in silence, or sneered at, like the ephemeral productions of “any body.” In endeavouring to answer both, I was led into a much larger inquiry respecting the two questions, than I had at first anticipated; but finding that, by the researches which that inquiry had rendered necessary, I might perform “some small portion of service” to those who may hereafter have to write the history of the Royal

Society, I collected materials which had never before been made public—laid open the machinery by which the affairs of the Society had been regulated—and minutely dissected the frame itself of that scientific body—all which several matters I mingled with the mere political question of the moment, touching the election of the President. Of 750 copies printed of that work, 400 copies were sold, while the pruriency of the scientific public was urgent, during the electioneering contest. That contest once decided, I felt unwilling to continue to pour, into the public ear, observations and representations which had lost their zest by the cessation of their occasion—and which were, here and there, couched in language that smacked more of the pettishness of party spirit, than of the respect which I ought always and wish to pay to individuals, whose talents I cannot but admire. I, therefore, withdrew the remainder of the edition entirely from circulation, and kept it by me until after the expiration of the *First Lustre* of the Presidency of that Prince whose election to the Chair, that work had, in a great measure, been published to facilitate. The consideration of what that period of rule has produced, and many other weighty reasons, which will be detailed in the Introduction, have induced me to alter, modify, and add an entire section of upwards of 100 pages, with an introduction and notes to the matter of that volume, and in that augmented form, again to offer it to the public, with that portion of its pages untouched which represented the state of the

Royal Society in 1830,—in order the better to contrast it with the state in which that Society will be found at the conclusion of 1835. All personal allusions, electioneering arguments and expressions, pardonable only on such occasions, have been removed, as far as the mechanical arrangement of the book would admit—and where that object could not be accomplished, I must be satisfied with expressing my regret at the circumstance. I wish to be in amity with all the world, and it shall not be my fault if I am not successful. Let it, therefore, be understood, that where I point out the defects of the Society—describe the manner in which its various proceedings are conducted—and lay bare the claims of the different classes of persons to the distinction of the three envied initials; or enter into many other matters either objectionable, or calling for reform,—it is the system and not the individuals I invariably aim at, in words as well as thoughts, without the slightest mental reservation. After this exposition of the manner and character of the present publication shall have been read, there will be those who will call it a *rechauffé*, borrowing from a culinary vocabulary a nib for their wit. They are even welcome to that, and to the benefit of any other contrivance to boot.

*Grafton Street, Berkeley Square,  
January, 1836.*



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*The indulgence of the Reader is requested on account of the following*

#### ERRATA.

Page 21, line 10, *dele* the second syllable in *Lalalande*.

32, — 18, *dele* own.

20, *for* expostulation *read* exposition, and the same wherever that word occurs.

40, — in the list of Surgeons add the name of *William Lawrence*.

45, — 17, *for* 48 *read* 57.

61, — 21, *add t* to *Relic*.

65, — *for* *Bahenian* *read* *Bakerian*.

67, — 5, *for* continuation *read* contraction.

70, — 8, *an s* *after* decision.

71, — 20, " *after* motion.

76, — 24, *an e* *instead of the 3d a* in *acadamecians*.

— 28, *dele* the.

79, — 11, *for* *de prædicto*, *read* *de prædicto*.

83, — 8, *for* *its*, *read* *their*.

— 17, *for* *has* *read* *have*.

89, — 14, *for* *on* *read* *in*.

94, — 24, *dele* date.

144, — 6, *for* rewards *read* awards.

155, — 14, *an o* *instead of the 6* in the sum.

159, — last line of note for 39 *read* 139.

131, — 12, *after* have *add been*.

## INTRODUCTION.\*

---

THE Royal Society of London, "for improving natural knowledge," is the only scientific corporation in Europe which is *en arrière* of the century we live in. It is so for two reasons : first, because its composition or structure, based on antiquated charters and imperfect statutes, is not the best calculated to advance the interest of science—secondly, because the necessity of seeking for pecuniary support, and life, in the largest number of members that can be procured, is an insuperable bar to the legitimate possession of the title of a "truly and purely scientific body."

Yet the Royal Society of London has published ONE HUNDRED AND TWENTY-FIVE VOLUMES, containing *five thousand and thirty-two* memoirs on almost every subject connected with science, in the space of one hundred and seventy-three years, since its incorporation in 1662 !

This is, no doubt, sufficient evidence of the activity with which some of the Fellows, at least, have at all times endeavoured to keep pace with the rest of the civilized world, in extending the empire of knowledge ; and I must go one step further, and add that, amongst those thousands of papers, by means of which individual opinions, thoughts, theories, observations, facts, and inventions, were made part of the common stock of general information, with a view to enlighten and benefit mankind, there are to be found some of the most extraordinary and brilliant results—the production of many

\* For the better understanding of the mechanism and parts of the present work, it is important that this Introduction should be read.

men, whose genius is almost unrivalled in the world, and some of whom have either been, or are still, our contemporaries.

Nevertheless, the position with which I set out is perfectly true, in regard to the times in which we live; and before I close the present volume, I think I shall prove that, although, as a publishing body, the Society, can not only bear competition with every other scientific association, but also boast of being among the first for regularity in the publication of its Transactions—yet that, as a working society, intended to advance science by encouraging genius, rewarding merit, making science attractive, facilitating intercourse among scientific people, alluring the uninitiated into the path of scientific investigation, and becoming the real representative of British science—the Royal Society of London has, for some years past, ceased to be, and is not even now, on a par with other learned academies, whether national or continental.

By such an opinion, however, it is not intended to convey the impression, that the Royal Society has not within itself the elements of life, health, and greatness, which would, if skilfully managed, soon bring it into a state equal in importance, activity, and usefulness, to that of every other contemporary scientific association in Europe, and even raise it higher than many of them—to that proud station, in fact, which it occupied in years far gone, when competitors were fewer in the field of science, and the thirst for positive knowledge was nothing like so urgent as at the present day.

So far am I from sharing the despondency of many able men, especially such as have published their views on this subject\* as to the future and restored greatness of our Society,—that, after maturely reflecting on the question at the time, and ever since the publication of a previous work,† touching

\* Mr. Babbage, Sir James South, and others.

† Reform in Science, or Science without a Head, &c. 1 Vol. 8vo. London, 1830.



the condition of that learned Body, I consider it only necessary to urge for the reformation of certain abuses and antiquated forms, no longer suitable to the changed times—and for the introduction of a few improvements as to the manner of conducting the business of the Society, to be quite certain that success must follow the attempt to restore its greatness and leading rank among all other academies.

This language I held in 1830, previously to the great change which then took place in the presidency and council of the Society. The same language I hold still. The truth of part of it was tacitly admitted on that occasion, and some of the reforms inculcated by it were, in consequence, partly adopted and acted upon subsequently. But what has been done is not enough, and the truth of the adage, that “too little of reform is worse than none,” has been strikingly exemplified by the last five years of the history of the Society.

I began, then, by submitting to the consideration of the Council, the propriety of altering the mode of conducting business at the ordinary meetings of the Society, which were then, and are still, monotonous, frequently uninviting, and often of little interest; and, above all, I prayed that we might be saved from the annoyance of a balloting-box, interrupting every night the attention which the officers and members present ought to pay to the reading of the several papers; and, for the accomplishment of this object, I proposed a method of election, with the sanction of a great name (page 95). The hint was taken on the abstract question, and the Council, a year after (Nov. 1831), limited the ballot to four nights only during the Session, namely, in February, April, June, and December. Although this was not the best mode of correcting the evil complained of, which I had so fully described (pages 80, 81, 82), it was, nevertheless, something, to be relieved during twenty-one meetings out of the twenty-five, which

generally constitute a session, from the evil in question. Yet even this little boon to common sense has very recently been withdrawn, and the old practice restored, by a minute of the Council, at which the Royal President was not present.\* The reason assigned for this *recantation*, after three or four trials, is somewhat curious. Great inconvenience having been felt in consequence of the large number of candidates, who, by the new regulation, are to be balloted for on the same night, the Council deem it necessary to revert to the former practice, of balloting on any night on which there may be certificates requiring to be put to the vote. In other words, we were annoyed by the process of balloting, in virtue of the new regulation, for *half an hour* or more, during *four* nights of the Session ; we shall now again, as in former times, be annoyed by the same cause *a little* during twenty-five nights, or *every* night in the Session ! I say every night advisedly, for, by another extraordinary alteration in the statutes, which has been made since 1830, such a facility has been afforded to the frequent election of candidates, that no one night of meeting will probably pass without the interruption occasioned by the ballot.

I suggested, in the second place, the propriety of enlivening the monotony of the meetings, and adding to the interest of its proceedings, by the reading of reports drawn up by able and fit men, appointed for the purpose (p. 86, 87), on all papers of major importance, either containing experiments and doctrines which demanded to be verified, or, being of a nature not to be generally understood without comment or explanation. This hint, also, the Council adopted ;† and, ac-

\* See Report of the Council at the Anniversary Meeting of 1835.

† See the Address of H. R. H. the Duke of Sussex, at the Anniversary Meeting of 1832, in the proceedings of the Society, page 141, in which the great advantages of such a practice are painted in glowing colours, and not less true than glowing.

cordingly, on five distinct occasions, (in 1832 and 33,) we heard very able reports, on papers of the greatest importance to science, drawn up with every apparent care and much labour by men, whose names alone are a sure passport to character and fame, and whose opinions, respecting the nature and intrinsic merit of the papers explained and commented upon, may be safely accepted as just and final.\*

The third suggestion I ventured to make on the same occasion concerned the statutes of the Society, which, it was contended, required rather more of modification than change—more of illustration and amplification than total abrogation, inasmuch as they were not bad, but imperfect (pages 82, 83, 89, 96). From the very able discourse pronounced by the Royal President at the Anniversary in 1831, we collect that alterations in the Statutes were made by a committee of revision, consisting of forty-two members appointed at the very first meeting but one of that Council, after the Duke's election, whose labours were afterwards published in the usual form, and circulated among the members.† What the nature of those labours is, and to what practical results it has led, will be a subject for consideration in the third section of this

\* See proceedings of the Royal Society, March 29th, 1832, page 108—April 5th, 1832, page 113—May 3d, 1832, page 121—May 2d, 1833, page 191—December 12th, 1833, page 246, et passim. The memoirs reported upon were by Professor Airy, Professor Faraday, and M. Lubbock, and upon the fluid-lens telescope of Professor Barlow. The reporters were severally: the Rev. William Whewell, M. Lubbock, Mr. Christie, Doctor Bostock, the Rev. George Peacock, Rev. Henry Coddington, Sir J. Herschel, Professor Airy, and Capt. Smyth, R.N. What more illustrious judges could such illustrious authors desire?

† Statutes of the Royal Society, 1831. London, R. Taylor. The previous edition was published in 1825, and is that which is alluded to in my former work. The principal alterations in the present edition relate chiefly to the mode of electing Fellows, the officers and council—the treasurer's accounts—and the business of the Society at its ordinary meetings.

work. But we may be permitted at once to express regret, that the *changes*, with few exceptions, have not been *improvements*.

One of the exceptions in question refers to the treasurer's accounts. These, it will be remembered, were never made known in detail to the Fellows at large. The sum total of contributions received annually, and of the receipts from other sources, were simply mentioned by one of the auditors at the anniversary meeting, together with that of the general expenditure—and that was the *amount* of the communication. On this subject I dilated fully in my previous volume, (pages 74-5-6-7-8,) in which I pointed out the gross impropriety of such a mode of carrying on the financial affairs of the Society, and declared (page 100) that “the manner of disposing of the money which the treasurer has at his command ought, in strict justice, to be imparted to the Fellows individually every year; the various sources of the revenue of the Society, their progressive increase or decrease, and the nature of its permanent funds, regularly mentioned, and the whole placed before the Royal Society at large. On the other-hand, the several and individual items of expenditure, no matter under what head, should be as distinctly detailed to the members in a regular balance-sheet audited by the five auditors appointed in virtue of the statute, and the whole circulated freely among the fellows.” The Royal President, evidently partaking in the propriety of these sentiments, caused at the very first meeting of the Council, (9th Dec. 1830,) at which he was present, a resolution to pass, directing that “the report of the last audit be printed and distributed to the Fellows, and that the practice in future be continued annually.” In consequence of which resolution the Fellows had the satisfaction of seeing on their table, for the first time in their lives, in that same year, a comprehensive statement of the finances of the Society, of which, according to the former prac-

tice, they would have been kept in ignorance. The Duke did not wait for the revision of the statutes to introduce this great improvement—or we should not have known the state of the pecuniary affairs of the Society for the year 1830, as no motion was made, or the slightest disposition shewn, at the anniversary meeting of that year, to concede this matter to the Fellows generally.

The second of the exceptions previously alluded to, from the general assertion that “all the changes made in the Statutes since 1830 are not improvements,” is an alteration in the number of subscribing Fellows required to a certificate of recommendation for election into the Society. In my former publication, I exposed the inconvenience of the small number of signing Fellows to a certificate, (page 92,) and suggested that the candidate should be recommended “by at least *six Fellows* in future.” The Council of Revision which met the year after, proposed and introduced into the New Statutes’ Book of the Society a regulation to that effect. (Stat. 1831, chap. I. Sect. 3.)

Other improvements in the internal management of the Society’s affairs have been suggested and carried into effect since the reform in 1830, which will be dilated upon in their proper places in the course of the third section; and I may here mention, at once, that I allude to *first* the re-appointment of a committee, whose duty is to examine papers presented to the Society, and judge of the propriety of their being read at the meeting. This prudent measure, which had fallen into disuse of late years, was likely to be productive of much good, if properly carried into effect. Whether it is so or not, the Society have no means of judging. *Secondly*, to the printing of the proceedings of the Society at its ordinary meetings for circulation among the Fellows, which was ordered at the second meeting of the Council after the reform election. *Lastly*, to the increased facility accorded

to the Fellows, of access to, and use of, the library of the Society, which has, moreover, been put on a most respectable footing, far different from the state in which it had been lying for many years previous to the Royal Duke's election.

In speaking of the labours or measures of the officers and council since 1830, which call for commendation, it would be unjust to pass over in silence the resolution of the 9th of December in that year (immediately after the Duke's election) appointing a committee "to consider of the regulations both written and practically followed, under which the honorary rewards of the Society have been awarded; and to report the fittest modes of conferring these rewards in future." This resolution embraces the consideration of the lectures as well—and the report of the Committee gave rise to a very useful and interesting publication by the assistant secretary,\* which has been circulated free among the Fellows, and contains an historical and chronological report of the foundation of the several honorary distinctions hitherto bestowed by the Society, and of the lectures delivered by some of its Fellows, founded on the records contained in the Archives of the Society.

Here, again, it happens, by a singular coincidence, (for neither in this case nor in any of the former cases mentioned in the present introduction, do I wish to assume, that because I went before the Council in the suggestion of the several measures of reform and improvement which they adopted—the officers and members of that Council had so acted in consequence of the strong, clear, and uncompromising exposition contained in my publication of 1830); but it so happens,

\* Report on the Adjudication of the Copley, Rumford, and Royal Medals, and appointment of the Bakerian, Croonian, and Fairchild Lectures, from original documents in the Archives of the Royal Society, compiled by James Hudson, assistant-secretary and librarian. 4to, London. 1834.

that in the publication in question, (page 59,) I used the very words afterwards employed by the reporting committee,—gave the very historical record, likewise taken by myself, with considerable labour from the Archives, four years before the production by authority of the assistant-secretary—and, lastly, arranged in a tabular form, the awards of medals as they had been made, with the “to whom and the wherefore,” since the beginning of the present century; exactly as the gentleman, acting under orders, did some years after: with the only difference, that he began his labours farther back than I had thought it necessary to do for the object of my publication. The information on such a subject contained in that publication was the first of the kind, I believe, which the Fellows had ever had, and I rejoiced to find it followed by one much more complete and official.

It may now fairly be retorted on me, that, after enumerating so many ameliorations, useful alterations, and original measures of a beneficial character, introduced into the Society by the administering body since 1830—(for which and through which I am justified in reiterating the words of my advertisement, that the decision of the contested election in that year was one, “the propriety of which would be acknowledged by the real friends of the Society”)—and, after proclaiming the names as well as the very important services of many eminent “Fellows,” who have striven to uphold the character of the Royal Society, I ought to be the last of its members to persist in considering that learned body as being “*en arrière*” of the century in which we live, having investigated its past and present state with so much perseverance.

My answer is this: the Society is improved from what it was five years ago. It has made a few steps forward. Ample justice, on this point, must be done to the president and the successive councils since 1830, which, unlike all the previous councils, have consisted almost entirely of working-

men, zealous and able, whose acts, in some, and whose intentions in other instances have been praiseworthy. Their joint endeavours have been directed to the advancement of the Society's honor ;—while, by his well timed, impartial, generous, and attractive display of royal hospitality, to all those, indiscriminately, who have a post in the field of science, and to others who patronize it, the HEAD of the Society studied to give to it an éclat which had never fallen to its lot. But from such a state, and that to which the Royal Society of London must come to, (if it is desired, justly, to enjoy the proud distinction of the first scientific association in the realm,) there is yet a broad space of separation. In order to become such, and once more to flourish, not merely as a publishing body, but as the *arbiter scientiarum*—as the model of scientific institutions—as the fountain of scientific honor—as the counsellors of the Crown in scientific operations—as the inviting and alluring beacon to aspiring men of science—in fine, as a society ought to be, which has pretensions to “ improving natural knowledge ” in 1836 ; far other measures of reform, far greater improvements, far more important alterations must be introduced into its machinery. The difficulties must be grappled with boldly—and the changes, loudly called for, adopted, whether the old charters, (fit for the 17th but unfit for the 19th century), will them or no—and unpalatable, though they may be, to a few mistaken yet conscientious fellows. This much must be done—done without collision of feelings—without separation into parties—with unanimity, and as the work of the Society at large, and not of any particular set of men. Else the rival institutions which have sprung up, all around the Society, while it slept its slumbers of conscious and secure importance—sprung up too, with a luxuriance of numbers and structural organs, and power of production equaling almost Australian vegetation—the Linean Society, the Geological, the Astronomical, the Mathematical, the Zoological, the Geo-



graphical, the Statistical, the Medico-Chirurgical, the Entomological, and the Phrenological Societies, the Royal Institution, the Society of Arts, and above all the British Association, will shoot upwards into mighty trees, and interlacing their far spreading branches over the Royal Oak planted by Charles and reared by Newton, (once the sovereign and sole occupier of the soil, but now stunted and neglected,) cast their blighting shadow over it, whereby it shall perish, entombed before its death.

The object of the present augmented volume, as it was of the former more simple publication, (the greater part of which is here reproduced), was to suggest, and by so doing, endeavour to encourage those far more capable than myself, to bring about the wholesome reforms, which are to avert so untoward an event. I have shewn that something has been effected since 1830. What remains undone, may perchance be effected still, if men are made aware of what it is that remains to be done, and how it is to be done. Many there are who might perform the task of monitor on such an occasion with greater ability, and far more influence than can possibly belong to so humble a member of the Society as myself:—but as none come forward—and the few who lament over the decaying features of our learned body, limit their remonstrances to mere occasional allusions in books, or to letters in the public journals—I have been induced, for the second time, to perform that office, though at some professional inconvenience, in consequence of the continued labour required in collecting facts and consulting documents in the Archives of the Society, with a view “truely and faithfully” to describe “**THINGS AS THEY ARE,**” and with the hope of bringing about a general and salutary **REFORM.**

Even should I fail in this great object, respecting which I am but a well wisher, and desire not to be a party to its consummation—the labour bestowed on the following pages will

not be wholly cast away—as the information they will be found to contain, may prove useful at any time, and will stand in lieu of a more extended history of the Royal Society in the nineteenth century, a desideratum yet to be accomplished.

THE  
ROYAL SOCIETY  
IN THE  
NINETEENTH CENTURY.

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*“ Neque mel, neque apes.”*

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THERE was a period, not far remote, in the history of the Royal Society, when the adage with which I introduce my subject, might have been very applicable to the efforts which well-meaning persons were then making to reform the defects of that Institution. So much of satire was mixed up in the public exposition made of those defects, which were attributed to years of misrule and personal incapacity—so many allusions to individuals and individual circumstances were employed, calculated, it was supposed, to give pain, not to one man alone, or to any set of men, but to several classes of society also—that the good results proposed to be derived from such an exposition, might well have been compared to the “sweets,” which we can only obtain through a “sting.” Fortunately that period has passed. Defects in the organization and administration of the Royal Society there are still ; but I firmly believe that there are no men in it, or at the head of it, who would now cling to them, if their existence could be proved, and the practicability of the mode of removing them shewn at the same time. I am not so presumptuous as to imagine myself able to undertake so delicate a task—but in recording, in an analytical and statistical form, the various proceedings of the Royal Society for the last thirty-five years—through the agency, alone, of documents and facts derived from its own archives, without any of the arguments *ad homines*, which were too liberally employed by others, and I regret to say, in some degree, by

myself also, on a former occasion ; I may, perhaps, assist in rendering that task easy for some more able and influential writer.

In order to put the question on its proper basis, it becomes absolutely necessary, as I observed elsewhere, to reproduce the entire statement of the condition of the Royal Society previous to the year 1830, and next to detail the changes that have taken place since that time, so as to judge, not only of what has been done which is "good," but of what remains to be done that is "better."

On reading over the several observations I made on a former occasion, respecting every department and circumstance of our Society, I find that I have nothing to retract or to cancel, as being inconsistent with precision or truth. I might have sacrificed a little more to the goddess "Courtesy"—and, instead of denominating certain persons "noisy ones," called them only *clamorous*, and, for the expression of "Royal Society dissected" (which, by the bye, may fairly be forgiven to an M.D. "*putet fuligine caminus*"), I might have substituted "the Royal Society analytically examined:" but in no essential points have I been guilty, either of misrepresentation, or of callous determination to offend any individual whatever. I may, therefore, safely trust to the kind feelings of my readers, for passing over unresented those or any other terms, wherever they occur in the narrative of facts or the warmth of argumentation; and rely upon their collecting the "honey," and disregarding the "sting," from my endeavours to perform what I considered to be a duty, which any of the Fellows of the Royal Society, who had leisure and appliances at command, was bound to discharge.

With regard to my account of the more recent period of the history of the Royal Society, the period which has elapsed since the first election of a Royal Duke, as President—I need not record such an apologetical explanation. To that period I have dedicated the third section of the present work, and

several notes referable to the first and second sections. In it, I have studied to keep constantly in view "things, and not men." But, as most of those among the latter, who figure in that account, are of a far better and more weighty calibre than the individuals who were mixed up with the account of the longer, and previous series of years of my history; the reader will not be displeased to see the due meed of commendation bestowed on them, from time to time, for whatever effort they may have made in improving the condition of the Society, since they were called upon to take a part in its administration.

It was impossible to treat a subject, such as I have endeavoured in this place to trace the outlines of, without alluding, and in some degree commenting on, a work expressly written with a somewhat analogous intention, by a Fellow of the Royal Society, whose many titles to the distinction of a truly scientific man it is needless for me to enumerate. That forcible writer, with whom my acquaintance is one of reputation only, preceded me by a few months in the exposition of the "mismanagement of the Royal Society," and in proposing a plan for its reform, differing, however, from my own. Whatever merit, therefore, may belong to the individual, who, by exposing a bad system, succeeds in bringing about either a general or a partial correction of it, he is welcome to enjoy, if it be thought that the few improvements, introduced since the appearance of both our censorial publications, are due to his enlarged, eloquent, and often personal observations.

But, in the work in question, Mr. Babbage, the author to whom I allude, entered into another subject, respecting which I ventured to differ with him; and it is curious to remark how little that subject seems to have contributed to the materials for his volume (though it be ostensibly brought forward as the *principal* one of its pages), when compared to the *incidental* argument respecting the Royal Society. Whilst

he employs not fewer than one hundred and thirty-seven of those pages, to develop his views of the misrule and deerepitude of the Royal Society; on the other subject of his publication—"the Decline of Science in England," which gives the title to his publication, Mr. Babbage bestows the labour of FIFTY-SEVEN PAGES only! This circumstance induced me to examine the arguments produced, in so short a span, for the support of so gigantic a proposition; and, as Mr. Babbage appears evidently to have made it the *cheval de bataille* on which he might fight to advantage, the errors of the scientific body he has so extensively and unmercifully "beaten, bobb'd, and thump'd," I betook myself to "scan the noble courser" a little nearer than any "jockey of Norfolk" would have done—differing, as I do most humbly, from the rider, in the use he makes of his steed, as far as the Royal Society is concerned, respecting whose reform we have, *au reste*, laboured in common, although with different feelings, different views, and different suggestions.

My examination, therefore, of Mr. Babbage's arguments on the alleged decline of science in England, precedes my observations on the Royal Society of London.

The question, treated on its own merits, is, doubtless, one of great importance. It is really worth while to inquire, since so much has been said on the subject, how far the circumstances of the times, and the passing events of the day, betray the decline of scientific knowledge in England: and, were it only out of respect for the talents of the writer who has been the loudest in endeavouring to maintain such a position, I was bound not to suffer his allegations to remain unnoticed.

For the same reasons I have, though very slightly, adverted to the published opinion of another distinguished *sçavant*, who will forgive me if I have classed him among the "clamorous," in consequence of the Stentorian eloquence with which he urged at public meetings, his charges against

the Royal Society, and his declarations of the decadence of science in this country. Sir James South, whose name I need not hesitate to mention, since with it is coupled a fair meed of astronomical renown, invited discussion on the several topics he brought forward in support of his peculiar views on the subject of science and on the Royal Society—and in accepting his invitation, and occasionally entering the lists with him, I have striven to imitate his brevity, though I must give up, as hopeless, the task of imitating him, either in his forcible, or authoritative tone of language. Sir James, in allusion to the title of my former publication, in which I referred to his share of the *war-whoop* raised against British science, is reported to have uttered a good joke, by asserting that the work was written by a “head without science.” I give him credit for that: but had he read the Philosophical Transactions to good purpose, he would have probably discovered that the most laughable part of his *bon-mot*, was its inapplicability, particularly if his eyes should now perchance fall on a certain list with which the present volume concludes.

There is a third writer—and he, an anonymous one, who in the Quarterly Review, supported, five years ago, the same side of the argument, respecting the decline of English science. This writer, whom I now willingly dismiss in two lines, I unceremoniously exposed in my first publication, as well as the character of the periodical in which he inserted his *diatribe* on the scientific men of his own country. For this the editor of that *well known* journal took the earliest opportunity of giving me a sample of his amiable disposition towards those whom he loves not, by “annihilating” another work of mine, a twelvemonth after its first publication, and after two thousand copies of it, in *four editions*, (declared by the printer himself to have been issued in the course of three months,) had been disposed of to the public. In return for such an act I offer him “the other cheek to smite.” Here

is another opportunity now for returning to the charge : and welcome.

Having said thus much in explanation and in justice to myself; before I proceed to business, let me distinctly state, on the outset, in order to clear away all difficulties respecting the intention and object of the present volume—that I do not agree with the position, that science generally, is declining in this country;—that I do not consider any individual “Fellow,” or any set of “Fellows,” but all the “Fellows,” responsible for the unsatisfactory and unpromising state into which the Royal Society has been suffered to lapse, and for not making a common effort to raise it from her abject condition;—that I look upon the system to be bad, and not the men who work it;—and lastly, that I write in favor of a REFORM as the only means to save the Society from farther degradation, under the impression that we have those among our leading men who are capable of appreciating the necessity of it, able to undertake it, and energetic enough to carry it to a successful termination—in all which propositions I differ widely, as will be seen, from the authors to whom I have largely alluded.

For the sake of method and clearness, I have thrown into three great principal sections all the information which I have to offer to the public in the present volume.

I have considered in the FIRST, briefly and rapidly the real state of science in England in our times, as deduced from the labours of the Royal Society and other sources.

In the SECOND, I have enumerated and discussed the probable results which a judicious and temperate reform in the mode of conducting the affairs of the Society, corporate, pecuniary, and scientific, may be expected to produce.

Lastly, in the THIRD section, I have given a full and statistical summary of the proceedings of the Royal Society since the election of the Duke of Sussex to the president's chair, pointing out where any improvement has taken place, and



where deficiencies are still in existence, and shewing how far science has been promoted during that period. In this section I have also entered into a comprehensive review of the direction, which the efforts of the Royal Society may be said to have given to scientific investigation in England, from time to time, since its foundation—marking the peculiarities by which each period was distinguished. I believe the idea of classing all the authentic information respecting the scientific researches of the Fellows, which the journals of the Society, the minutes of the Council, and the Philosophical Transactions supply, so as to determine how far science was advanced by them, and what particular branch had, at different periods, been mostly cultivated, to be new; and I have endeavoured to work it out with as much precision as my documents would permit. Yet I may and have, probably, committed some errors, here and there, without being conscious of them. For such I hope I may stand excused. Accuracy was my intention, and this I studied to apply to the two analytical and numerical tables of all the papers read before the Royal Society since the year 1800, (a period of thirty-five years,) which are not to be met with in any other publication.

The various topics that naturally arrange themselves for reflection under each principal division of this volume, will be seen successively as we proceed. But the reader will form a collective idea of the whole, and thus judge better of the great importance of the general question, by the number and interest of the separate parts, if he will cast his eyes, before going farther, on the “plan and division of the work,” which follows immediately after the Advertisement.

I have endeavoured throughout to eschew every assertion which could not be supported by facts. These I have been at great pains to collect, and where it was possible to do it, I have arranged them in a tabular form, the most favorable to all statistical enquiries.

## FIRST SECTION.

*The real State of Science in England in our times, as deduced from the Labours of the Royal Society, and other sources.*

1<sup>st</sup> Topic. The consideration of every argument which has been urged against the present state of science in England.

In taking a general view of whatever has been urged by those who contend that science, in this country, is on the decline, either in works written *ex professo* to that effect—or in publications, of whatever other description, in which the subject has been mentioned only incidentally : it is impossible not to direct our principal attention to the assertions contained in the work entitled “Reflections on the Decline of Science in England.” In that volume, Mr. Babbage undertakes to shew that, with regard to the more difficult and abstract sciences, England is much below other nations not merely of equal rank, but below several of much inferior power ; and he attributes this state of comparative ignorance to a variety of causes, which, in my humble opinion, either prove nothing in support of his position ; or prove too much if the truth of that position depended on the reality of the causes alleged. We shall deliberately notice, by-and-bye, each of the causes in question as specified by the ingenious author. Mr. Babbage next (in illustration, shall I say, of his assumption that Englishmen occupy at this moment the lowest rank in the scale of science ?) proceeds to comment on the present condition of that Society which has hitherto been supposed to be the exponent of the scientific character of England. In the latter part, which may be said to be the principal, as it is the strongest part of his performance, Mr. Babbage has been more successful than in the former or more abstract part of it ; and had the language of grave and friendly remonstrance given utterance to the enumeration of

the abuses, old-fashioned prejudices, injurious regulations, repeated blunders, and indefensible acts of successive administrations in that Society, which, collected with industry and stated with clearness, leave no room for any other than the conclusions to which the intelligent writer has arrived in his book ; such conclusions would, most assuredly, have been adopted by the majority of the fellows as a guide for their conduct—and reform must necessarily have followed. Many of the facts are conclusive ; but the harsh words of reproach and the insinuations as to motives, thrown out against certain individuals, weaken the force of the argument, and mar the effect which the facts alone would have produced. This will be better developed in the progress of these pages.

In the third division of Mr. Babbage's book, which contains suggestions for the reform of the Royal Society masked under the more specious phrase of " Suggestions for the Advancement of Science in England," there are many valuable hints ; but, as I differ much from him in his views of what is important in science, and place but little reliance on the establishment of those knightly distinctions which have since been lavishly distributed, as means of fostering science in this country—and, indeed, as it is the main object of the present publication to offer a plan for the reform of the Royal Society, which, I presume to think, affords the advantage of greater practicability than Mr. Babbage's own plan, I shall only touch upon this part of his book lightly and incidentally.

Now, as to the causes assigned by Mr. Babbage with a view to explain the decline of science in England, I said that they proved too much. Is it not so, when we find him stating that to the present system of education pursued at our public schools and at the universities, the neglect of science in the country is partly to be attributed ? If this position be true, in as much as the system now pursued at those schools and universities is, *totidem modis*, the same which has existed

for centuries, it would follow that science, in England, must always have been on the decline, even when Newton filled the chair which our author has the proud distinction of filling at this moment in the University of Cambridge. And if always on the decline from such a cause, I would ask the Lucasian Professor, at what period then did science flourish in this country? I might also put to him another question connected with this form of university education, and advisedly require of Mr. Babbage, who in his book proposes some sensible alterations for the improvement of academical instruction, to inform us how many lectures he gives to his pupils in the course of the scholastic session or during each term at Cambridge; and whether he be present, as long and as often, as his zeal for mathematical sciences, would lead one to expect, in the *Gymnasia* of his *Alma Mater*, in hopes of inspiring the young academicians with his own ardour for science, that he may thus check, in some degree, its downward fall?

A second cause for the present decline of science in England, alleged by Mr. Babbage, and which, like the first, proves too much for him, is "the little encouragement afforded by the English Government to the authors of useful discoveries or of new and valuable inventions." Without entering into an examination of the truth of this allegation, which many ministers of the crown might be inclined to refute, by reminding Mr. Babbage of the sums voted out of the public purse for the improvement of chronometers—the introduction of antiseptic fumigations—the discovery of vaccination—the encouragement of polar navigation—and the promised facility of calculation by machinery, with a hundred more votes of a similar description; I would submit to the author, that as this second cause is said by him to have existed at all periods, the decline of science, which is made to depend upon it, must also have been noticed "at all periods" in England. Thus, then, according to Mr. Babbage's

own shewing, the two series of causes which were at one and the same time to account for and prove the present decline of science in this country, may be considered as proving more than the author desires. But it will be more charitable towards him to say, that those causes, in reality, prove nothing in favour of his argument—for, properly speaking, science has never been, nor is now, on the decline in the British dominions. I would venture to assert, without much apprehension of being contradicted—and that, too, on the very grounds assumed by Mr. Babbage for quite a different purpose—that pure, difficult, and abstract sciences are, at this time, in precisely the same state in which they have ever been in England, namely, that they are moderately cultivated, abundantly productive, and sparingly endowed with great names and supereminent genius. Great Britain, like France, Germany, and Italy, has had its luminaries in science, at intervals far apart—its Newton, its Herschel, its Black, its Cavendish, its Watt, its Arkwright, and its Davy, names, every one of which would be sufficient to impart its proud character to the century in which it flourished. But, beyond this admitted similarity, England can no more claim to place her more general annals of science by the side of those of the nations above-mentioned, than can the latter compete, at the present moment, with England, in the extent of the application of scientific discoveries to useful and profitable purposes. Science, then, I would say to Mr. Babbage, is now what it ever was in this country, highly respectable and abundantly useful: but we have far more noisy pretenders now, than were ever known to assume the garb of scientific men in former periods—we have more jobbers in science than ever existed before—and we find, alas! more of petulance than modesty in some of the truly scientific men.

These are the only real differences between what science is and what science was in this country; differences which,

by rendering the profession of a scientific man despicable in the eye of the well-intentioned, the clear-sighted, and the contemner of quackery, have given to science itself the semblance of being on the decline. In support of his declaration to that effect, what proofs has Mr. Babbage adduced? Does he mean to contend, for example, that a judge, entirely innocent of science, who has to charge a jury on a question in which science is vitally involved (because it is that branch which gives health and restrains death,) could not have been found at any other than the present period, so prompt in declaring, pending the trial of a *manslaughtering* empiric, that the laws of this country distinguished nought between the act of an ignorant pretender, who assumed the office of physician, and that of the president of the most learned college, who professed equally to heal diseases? Or is Mr. Babbage prepared to assure us that, in years gone by, a junior lord, who certainly could not have learned science at the Treasury, would never, as in our own times, have been appointed chairman of a commission before which questions connected with the most difficult points of physiological science or the study of the aberration of the human mind are often debated, and which questions are as often decided by this noble chairman, *coute qui coute*, without much opposition from the professional men, who are part and parcel of that commission? Perhaps Mr. Babbage may be disposed to believe that, in times more favourable to science than our own, appointments of persons to situations in the scientific department of the British Museum would never have been thought of, where the individual must be appointed first, and get his scientific acquirements as well as he could afterwards. Or probably Mr. Babbage is prepared to assert, that on no account would a minister of the home department, except in these days of degenerated science, have declined all interference in behalf of a cheated, duped, and injured public, after he had

promoted inquiries into the causes of two important sources of abuses which affect the health and the lives of his fellow-creatures, of the existence of which he declared himself convinced, which he promised should be rectified, but which he afterwards abandoned to their uncontrolled dominions? \* All these arguments, indeed, our author might feel inclined to adduce as illustrations of the decline of science, and the little respect in which it is now held in England; but to all those who are versed in the more remote periods of our national history, a hundred similar abuses will suggest themselves to overthrow the conclusions of the learned wrangler. Nay, I might go farther, and point out to him in the more recent pages of the modern history of that country in which Mr. Babbage seems to have planted the throne of science, innumerable abuses of a like nature to those I have enumerated, the result of precisely similar motives and guiding principles, to wit: jobbing—personal interest—patronage—political sympathy and antipathy—nepotism—jesuitism and favouritism—which, after all, will, to the first day of the millenium, exert their baneful influence, not in England only, but in every other civilized country of the universe.

Mr. Babbage has given a dismal account of the prospects of a young man, who, at his entrance into life, impelled by an almost irresistible desire, devotes himself to the abstruser sciences; or who feels that the career of science is that in which his mental faculties are most fitted to achieve the reputation for which he pants. The sad picture of those prospects is appalling; but how can it be adopted as proving the wretched state of science in England? If we pretend to a return from society for what we give to it; society has a right to expect that what is tendered be useful to its members

\* The question of the supply of water to the metropolis, and of protecting the public against pretenders in one of the most interesting branches of medicine and surgery.

and institutions. If the abstruser sciences can promote the benefit and advantage of both largely, the man who cultivates them will reap an ample harvest of profit from his occupations. But how can he expect such a result if his intellectual faculties, endowments, and lucubrations tend only to exhibit to the world the power of thinking man over brute creation, and inanimate matter; or the superiority of the mind of one individual over that of the millions? In the latter case, fame and an imperishable name are the noblest guerdon to be desired; and this never fails to light on the highly gifted in this country. What nobler aspiration could Mr. Babbage himself make for his own interest, than the acquisition of that name which will endure for ever, if his ingenious invention, whereby the abstract operations of the mind in mathematical reasoning are made visible to the senses, shall prove ultimately successful? But on the other hand, what extent of public pecuniary recompense can he expect which the applicability of that invention to the wants of the public could warrant and justify? The invention is by nature, and mechanism, size, and *intention* manifestly limited in its use; it may facilitate mathematical calculations on great state and public occasions, and secure that accuracy, in all such circumstances, which can scarcely be looked for from calculating philosophers; but where is the *quantum* of benefit which society is to derive from it, that shall determine the quantity of recompense to be given to the inventor? A case would certainly be made out here for an honorary distinction from the government in behalf of the inventor; and I would go farther, and add, that in as much as the invention itself, even in its limited application for great mathematical operations, would be equally useful to other civilized nations—the honorary distinction should be either a combined one to Mr. Babbage from all of them—or he should receive from each a specific honorary reward. But would all the crosses and medals and pretty worded letters



from home and foreign ministers, or even a gazetted monosyllable prefixed to the inventor's name, equal in the scale of public opinion—nay I would say of Mr. Babbage's own opinion—the weight of that name alone which would inevitably suggest itself, and for ever be united with the use, the sight, and even the bare mention of that surprising contrivance?

Where stands the man who can say that he would rather die possessed of the thousands of pounds, which a concealed process, the result of scientific research, placed at the disposal of a defunct philosopher; than, enriched with the thrice greater renown of another philosopher, also recently lost to science, whose open, disinterested, and romantic generosity, handmaid of his genius, was for ever hurrying into the power of the public, without looking or working for paltry lucre and selfish profit, every invention and discovery of which his mind proved so prolific:—from that which for the first time made the finer and most evanescent combinations of abstract chemical philosophy tangible, down to those which have since tended to save the lives of thousands, in the one instance, and, at some future period, the expenditure of many millions of the public money in the other instance?

These higher considerations ought surely to have restrained Mr. Babbage from laying so much stress on the asserted facts, that the exercise of the talent of a philosopher in this country, even when he shall have won a station high in the ranks of European science, can only produce “the paltry remuneration of a clerk;” and that the high and independent spirit, which dwells (ought to dwell Mr. Babbage should have said) in the breasts of those who are deeply versed in scientific pursuits, is ill adapted for the paltry appointments to which science may recommend him.

The charges brought forward against modern science in England by another writer are far different from those contained in Mr. Babbage's work. The Kensington Astronomer,

who, thanks to his stars, has received, at the hands of his Sovereign, a distinction due to his merits, and has since been in the right ascension amongst the titled of the land, instead of skimming, as heretofore, along the line of the visible horizon of an untitled multitude, advances such criminatory allegations, as far outstrips the consideration of the mere scientific man, until they become the subjects for legal investigation. But even here I would meet the "noisy ones" and the grumblers, and contend that some of the very charges—and the manner in which this public and bold accuser explains and illustrates some of those charges, which have science more immediately for their object—prove the very reverse of his position, that "science in England is on the decline." Sir James (I will take up one or two of the numerous articles of impeachment at random) states that the Copley medal, from unworthy and personal motives, was on one occasion about to be improperly adjudged; but he at the same time admits that many scientific men are in existence whose labours would have deserved that distinction. Hence science, thus far, cannot be said to be declining; although an abuse of power in the hands of narrow-minded and selfish individuals, may have injured the cause of science. Again, the Chevalier observes, that the Nautical Almanack, owing to the inefficiency of the individual entrusted with its construction, had become at last such a disgrace to the country, that the Government has been compelled to confide its improvement to the Astronomical Society. How can this fact prove any thing against science, or in support of the position that science is declining? It may prove the disgraceful manner in which a Government, reckoning not a single man of science among its counsellors, appoints unfit persons to scientific duties—but it also proves that science is *not* declining, since a Society of Astronomers exists in England capable, according to the Chevalier's assertion, to *improve* the said almanack;

and it furthermore proves that science finds, at last, its ascendancy, even with a Government innocent of science, and compels it to seek assistance from truly scientific men. One more instance and I conclude my observations on Sir James South's opinion of the state of science in England. One other of his charges is, that by improper management, and after much waste of money and time, the honour belonging to Great Britain of once being the optician of the world has been forfeited; and yet a little before Sir James had assured us, that an English optician exists now "second in merit *only* to the ever to be lamented Fraunhofer." Here then we have the Chevalier's own declaration that practical optics, no mean branch of science, is *not* on the decline, since the second optician in the world is an Englishman. But if the Chevalier's opinion be really worth any thing on points of practical optics, an English optician must be now in existence *superior* to all other opticians abroad—for the only illustrious foreigner to which he was second is *now no more!*

Thus, then, it appears that, of the two more formidable pleaders against modern English science, neither the one nor the other has distinctly proved his assertions—and I scarcely need add that the third pleader, of whom I took notice first, the Quarterly Reviewer, has completely failed in his enterprise, and that he has, indeed, broke down under a weight far too oppressive for his strength. It would be idle, and an unnecessary prodigality of time, were we to stop to inquire into the various statements of the minor advocates of similar doctrines, which have appeared from time to time in magazines or newspapers, whether in the shape of letters or paragraphs. In none should we find a sufficient return for our pains—or a scintilla more of real information on a subject which seems to have been exhausted by the principal writers noticed in these pages. The readers may rest assured that the whole mistake arises from a misapplication of terms. If, instead of speaking

of the decline of science in England, the authors and writers in question—and those who, incapable of writing, but eager to mimic their betters, go about denigrating science in every club and society, to gain a patch of momentary importance in the character of critics—were to descant “on the use and abuse of science” in this country, and declare that science is at this moment without a HEAD—they would make good their position; and the arguments and facts, many of them incontrovertible, adduced by them to prove, but which, in reality disprove, the decline of science, would have clearly illustrated and made manifest the justice and correctness of their statements.

Having disproved the present fashionable assertion, that, as a scientific nation, England is declining from what she was; I proceed to shew that science (as I before observed) is now what it always has been in this country—namely, an object of moderate interest to the public with regard to its abstract principles, but of paramount importance, and one which has never been lost sight of, with respect to its applicability to useful and profitable purposes. Great Britain has uniformly held a middle rank in the scale of scientific nations. She has, indeed, on a few occasions, easily numbered, risen to a very elevated station in the region of philosophical science; but even on those occasions, which form glorious epochs in the universal history of natural knowledge, the abstract philosophy of a discovery, or a brilliant invention, the result of philosophical deduction, has dwindled into mere matter of fact and profitable applications, as soon as each of them was found to be susceptible of such results;—or has passed away like an aerial dream, without leading to any result whatever, when the proclaimed abstract theory could not be converted into practice. Hence, if we descend to details in this curious question, we shall find that those branches of science have principally commanded the attention of the English nation, which tend

to minister to its wants or its luxuries. Thus mechanics have ever been a favourite topic with them; for they produce wonderful and immediately-available results which bring profit. If we improve our chronometers—start into existence a new power, equal to that of man and brute combined, in our steam-engines—uproot the firmest oak by an hydraulic press—and lay down rail-roads, on which lumbering machines vie in velocity with the lightest feather impelled by the breeze—we may boast that we cultivate mechanics with success; but farther we cannot say. To account for all those discoveries and inventions; to describe them in terms intelligible to every scientific man in Europe; to apply mathematical demonstration to each of them; to exhibit the beauty of their respective combinations, as they flow from the unerring principles of the philosophy of science—belong not to the fortunate discoverers, nor to the professed philosophers of this country. That art is purely French and Italian. In the mechanical arts the English may stand unrivalled, but the French and the Italians surpass the English in the skill of describing them. This successful application of science to industry has made the English a nation of calculators and economists—and, hence, the criterion of value of every thing scientific in England is its marketable price. Does not every reader recognise, in this picture, the real state of science for the longest period of time in remembrance, and not the history of the present condition of science only, as falsely pretended by a few individuals of the present day?

The Lucasian professor says that we are far behind the French in mathematics; and the knightly astronomer of Kensington proclaims continental astronomers greatly superior to those of England. Another of the grumblers pretends that natural philosophy is more valued and better cultivated by foreigners; while a fourth critic asserts that the English have no taste for, nor skill in zoology. Admit we their asser-

tions for an instant, although somewhat exaggerated; has not this always been the case during the long intervals which have elapsed, between the appearance of one great constellation and that of another in this country? What for instance was the condition of the higher mathematics in England, twenty—fifty—or a hundred years ago? Colson, Maclaurin, Simson, Stewart, Emerson, Playfair, Maseres, Waring, Pemberton, Hellins, Hutton and Young, figure in the history of general mathematics, in algebra, in impossible quantities, in cubic and quadratic equations, in series and logarithms, in properties of curves, in curved surfaces and solids, in combinations and chances, in interest and annuities. But are there no mathematicians now of the same calibre? No Ivory, Woodhouse, Morgan, Herschel, Babbage, Kater, Christie, Barlow, Baily, Gompertz, Whewell, Allman, Peacock, Lubbock, Bromhead, and Groombridge, to whose labours the same branches of mathematics are much indebted? Still the whole amount of the labours of the first, as well as of the second series of English mathematicians, however respectable, cannot be put in competition with the striking and magnificent discoveries and demonstrations of transcendent truths—embracing the very structure of the universe—due to foreign mathematicians, contemporaries with the two series of mathematical writers in this country: Bernoulli, Bossut, Borgnis, Clairaut, Mascheroni, Cagnoli, L'Huilier, Lorgna, Lacroix, Lacaille, Shubert, Euler, Lagrange, Carnot, Cousin, Arbogast, Vega, Hachette, Poinsot, Fourier, Fresnel, Delambre, Puissant, Prony, Biot, Cauchy, Dupin, Ampère, Legendre, and LAPLACE.

If we turn to the astronomers of former times, and those of the last fifteen or twenty years, what circumstance shall we discover, in either series that warrants the assertion of Sir James South, which goes to assign a very inferior rank to the latter, as compared with those of the former series? Take the last eighty years, and set aside the great Herschel, who

was a foreigner, have the labours of the astronomers of the latter part of the eighteenth century greatly outstripped those of the first part of the present century? Are Maskelyne, Michell, Goodricke, Bugge, Pigott and Hellins not to be matched with Brinkley, Mudge, Baily, Pond, South, and the *English* Herschel? And are not the elder as well as the more junior astronomers just named, inferior in rank, in the republic of science, to twenty continental astronomers, German, French or Italians, whose names suggest themselves at once. The Piazzi—the Oriani—the Lalande—the Cassini—the Zach—the Albers—the Pons—the Schumacher—the Gauss—the Encke—the Lindenau—the Plana—the Poisson—the Arago—the Bessels—the Struve—each of whom is a host, compared to the whole number of English astronomers of the present day put together, not only for their individual discoveries but also for their almost incalculable labours? Reflect for one moment, patient reader, on one, only, of this illustrious congregation—Struve, who lately visited this country, having, single-handed observed some thousands of double and triple stars, many hundreds of which are new and of the first and second class, and confirmed the fact first hinted at by Sir W. Herschel, that the former curious binary systems in the planetary world, in which two stars perform to each other the office of sun and planet—had unjustly been considered by astronomers as immoveable celestial bodies! In this one point alone, were we to apportion reputation to two individual astronomers in proportion merely to the quantity of labour performed by each—how far above South, (whose principal character as an astronomer rests on observations of double and triple stars) would Struve soar, and above the present Herschel also, in the same branch of astronomy? This superiority might even be *numerically* appreciated, and Struve would then appear to be as many times more celebrated than South and Herschel together, as the number of double and tri-

ple stars observed by the former is greater than that examined by the two latter. But though the foreign astronomers be so infinitely superior to the two English observers, the latter are nevertheless very respectable astronomers; indeed as respectable as English astronomers can be.

We might pursue this comparative and rapid, consequently imperfect, survey of the scientific men of this country in the last and present century in every other branch of natural science, and we should find the same assertions illustrated (nay, more than illustrated in some particular branches, such as natural history, anatomy, and physiology,) with which I set out; namely, that the quantum of science, abstract and theoretical, of the present day in England, is equal to what it was at a more remote period; and that in all branches except one, that *quantum* has been inferior to what is to be found in the scientific history of corresponding periods on the Continent. The branch which I except is chemistry. In this branch, indeed, England can boast of greater triumphs than any other country in the world. Davy is the Newton of chemistry—and there has been but one Newton in the universe. Newton followed Galileo—Davy succeeded Lavoisier. The predecessor of Newton first developed the movements of the planets and the nature of that of the sun; but Newton himself discovered the law by which those movements are regulated. Davy's predecessor first hinted at and proved the compound nature of one pretended elementary substance; but Davy himself tore the veil of mystery from over the most refractory compounds deemed simple before him, and discovered the law by which those compounds are regulated. Here, then, England is superior to every nation in Europe; and is it while the sod lies yet broken over the fresh-made grave of this great and illustrious philosopher, who will give his name to the century he lived in, and whose memory will be the more revered the farther



we shall recede from the recollection of what was mortal in him—that we are to listen patiently to the gross calumny echoed and re-echoed by the “noisy ones,” that science is on the decline in England? I challenge them, to a man, to peruse the forthcoming volume from the flowing and pleasing pen of one of their “Co-fellows,” but not fellow grumblers, in which, under the title of *Memoirs of the Life of Davy*, they will find traced, in a style which invites attention, the history of chemical and physical science; and when they shall have closed that volume, let them, if they be still inclined to libel modern English philosophy—repeat their thrice-refuted assertion that science has been declining in England.

2<sup>d</sup> *Topic*. The number and composition of the various scientific societies in London, their labours and character.

On this subject I must be brief. At one time, and that not a very remote one, there existed but one society for the “improvement of natural knowledge in London.” The field of science occupied by that society was far too extensive to have been all equally well cultivated. The higher branches of scientific knowledge claiming, under an illustrious president, the particular attention of many members—natural history became neglected, and this gave rise to the formation of the Linnean Society. This society has collected facts from every quarter of the globe, and has arranged, in occasional volumes, information which might otherwise have been wholly lost on botany and zoology. But the science of natural history has not, through the exertions of this society, made that progress which would entitle England to an equal rank with continental nations. Still it cannot be asserted that natural history, compared to former periods, is on the decline in England. It consists now, as it always consisted, in a series of nomenclatures and examinations of species, to the entire exclusion of the higher pursuits of that science. Systematic and technical natural history, in fact, is the only natural history cultivated in this country.

The gentleman who, from the department of numismatics in the National Museum of London, where he was placed from private considerations, was suddenly transplanted as an assistant into that of natural history, will furnish the most recent example of what I mean to convey to my reader on this subject. Instead of employing the many leisure hours which a fixed salary—a convenient residence—and the opportunities of arranging a zoological collection in the splendid gallery of the Museum afford him for the drawing up of a comprehensive, and philosophical description of the origin—habits—peculiarities—history—and propagation of the natural objects under his management, so as to qualify himself for his situation—this gentleman, one of the “noisy ones,” I trow, prefers favouring the readers of the *Annals of Philosophy* with a transcript of a dry catalogue of butterflies taken from a foreign author, and diluted over a great many numbers of that once flourishing journal!

The separation from the parent stock of so important a branch as the Linnean Society was the first blow given to the colossal importance of the Royal Society. The next blow was a more insidious one; and although in its effects it produced not an immediate injurious result to the parent society, its example proved far too prolific in the production of successive schisms, and in multiplying the number of *separatists*. It is curious to notice how skilfully the sagacity and vigilance of the veteran President of the Royal Society were lulled to sleep by the *separatists*, who, under the plea of cultivating with more intensity and attention *animal chemistry*, tore themselves off from the bosom of their mother society, and yet adhered still to its mangled remains. The history of the Animal Chemistry Society, issuing from the Royal Society, is best given in the very words of the worthy Sir Joseph.

“Allow me, Gentlemen, (observed the President at the Anniversary Meeting of the Royal Society, held Nov. 30,

1809) to request your patience for a few minutes more, in order that I may communicate to you a new arrangement made by your Council, of importance, in their estimation, to the general welfare of the Society, which they hope will be honoured with your approbation.

“Certain fellows of the Society, whose views lead them principally to the study of human and comparative anatomy, and others chiefly occupied in the study of chemistry, among whom are the names of Cavendish, Hatchett, Home, Davy, and others, having found it repeatedly necessary to consult each other, the anatomist requiring from the chemist the analysis of the different modifications of animal matters, diseased or healthy; and the chemists, on the other hand, requiring in their turn from the anatomist a circumstantial, precise, and distinct account of the nature, origin, and situation of the matters they were requested to analyse; found it convenient to unite themselves, with the addition of some few other persons, not absolutely supported by them, for the purpose of promoting the advancement of animal chemistry.

“In thus uniting themselves into an association, they, however, recollected that, as fellows of the Royal Society, they owed to that body, under the tenor of the obligation they had subscribed on their admission into it, the duty of promoting to the utmost of their ability the interests of the mother society, and they felt at the same time the propriety of continuing to consider our annual publication as the best and most convenient method of communicating to the public the transactions of the learned in all places, and more especially those of persons actually making a part of the body to which they belong.

“With this view they applied to your Council, and having laid before them a copy of the fundamental rules of the new society, by which it was enacted, that all discoveries made by the members, and communicated to their meetings, should

be offered to the Royal Society, to be read at their table, and inserted, if approved by the Committee, as papers in the Philosophical Transactions. They requested to be admitted by your council as a subsidiary and assistant society to the Royal Society, and as such to be noticed in the public as well as the private proceedings of the Royal Society.

“To this request your Council lent a willing ear. They were aware how much the association of persons of different views, united together for the cultivation of any particular branch of science, must tend to its benefit and advantage; and they felt also the marked propriety of conduct in the applicants, who preferred rather to strengthen the foundation of the ancient edifice, of which they made a part, than to sap and undermine it by attempting to wrest from it the cultivation of any particular branch of natural knowledge placed by the original constitution under its superintending care. They also considered the great convenience derived by the public from having one publication only of the Transactions of the learned, in which all branches of natural knowledge are comprised; and for these convincing reasons they determined, without hesitation, to admit the worthy associates as an assistant Society to the Royal Society, and they accordingly gave orders to the officers of the Society to recognize them as such in all proceedings of the Society. (*Irregular by charter.*)

“This admission, which resembles the sub-infeudation of the Feodists, the creation of a subordinate manor, within the boundaries of an established one, allowing the new institution to possess some privileges, but reserving always the signorial duties of suit and service to the original manor, has already been productive of two valuable papers which have been read at your table, and both have been printed as such in the Philosophical Transactions, (*the members and authors being generally the voters in the consultation of papers,*) nor has the ardour and diligence of the members of the new association since that time in any degree abated. They are now

busily employed in advancing the science they have undertaken to improve, and it cannot be doubted that other fruits of their associated labours will be laid upon your table, and recorded in your Transactions, in the next as well as in future years."

The example of this Society led to the formation of the Geological—a society, the utility of which as a separate body, is more than problematical, but which has nevertheless so directed its pursuits as to render itself popular by collecting and exhibiting the jewels and trinkets of nature, and by enumerating and singly considering its variously formed and constituted earthly clothings. Assuredly when the "noisy ones" survey the quarto volumes and the lithographic delineations of the Bucklands, the Fittons, the Lyells, the De-la-Beches, and the Connybeares, not forgetting the interesting description of the Bagshot-heath sands, (which has the merit of being the only production of its author)—all from the Geological Society of London—they will not venture to assert that science is on the decline in England. The Geological Society is an aspiring society—in its separation from the parent stock, it inflicted a mortal wound on the Society which had brought the geologists into notice. That it may not succeed in its farther aim of completely overthrowing its parent through the present half-disguised manœuvres of some of its members, is devotedly to be wished, and should be strenuously contended for. There again, as in the Royal Society, the "noisy ones" are the least scientific—while those, among their members, who in reality have created geology in England, and placed that science nearly on a par with that of the Vernerian school, by their labours, memoirs and exertions in the service of geological science, are tranquil but grieved spectators of the cabals and intrigues of the few.

Unquestionably (since we are on the subject of geology) were we to form our estimate of the real state of geological

science at this moment in England from what some of the members of the society under consideration are accused of having written in the last number of the Edinburgh Review, while giving an account of the transactions of their own body, it would be impossible to deny that scientific knowledge is on the decline among us. In that article, the "noisy ones" of the Geological Society, before proceeding to speak of their own labours, favour us with the enumeration of the following discoveries.

"The Earth is one of the eleven planets which revolve round the sun." (!)

"How long they (*the motions*) of the planets have continued, we do not know." (!!)

"Language, (*this is an old story*) and the knowledge of writing, (*this is perfectly new*) distinguish the human race from all other animals." (!!!)

*Edinburgh Review, October 1830.*

Truly, science here cuts but a sorry figure. But how much worse does it fare, when we come to the marrow of the Reviewer's lucubration! What think ye, oh my readers, is the object of geology? Hear the answer of the Reviewer. "*Geology is the science which attempts to answer the difficult question of whether the solar system was brought into existence only about 6000 years ago, or whether it existed before the human race made their appearance on earth?*" (!!)

Fie! upon such trash—the writer evidently knows the real meaning of geology better; but he cannot write plainly; he wishes to talk fine language, to appear unusually deep and scientific. He is one of the "noisy ones," and he gets involved into all sorts of blunders.

Whether the Zoological and Horticultural Societies can, in fairness, be considered as emanating from the great parent stock—and the Astronomical Society, also, which, with the Medico-Chirurgical, complete the series of *sepa-*

*ratists*, so that the skeleton only remains of the dismembered parent—I leave to my readers to determine. The two latter have made gigantic strides—and their usefulness is unquestionable. But that of the two former remains yet to be demonstrated—unless the circulation of large sums of money, which they have occasioned, be considered as an object of utility to the public, even in matters of scientific societies, in this, of all, the most calculating nation in Europe. The Zoological was evidently intended as an imitation of that proud establishment, the Garden of Plants, at Paris—but the imitation, if intended, is a very humble and humiliating one, for a nation which squanders millions in settling a point of political geography or military possession, and which has all the productive parts of the globe, rich in objects of natural history, either under the sway of its sceptre, or within the reach of its maritime arms. A project for a real imitation of the Parisian establishment, was suggested, in 1818, by the author of this Expostulation, on his return from the French capital. The Regent's Park was then forming, and was selected as the most appropriate spot. A few friends met at a dinner party at the Freemason's Tavern, for the purpose of taking into consideration the suggestion of the author. Dr. Latham was placed in the chair, and the architect who had the disposal of the ground was ushered in, to exhibit the plan of the Park and shew the plot of ground intended to be allotted to us: the paltry views developed on that occasion squared exactly with those which have since been acted upon in the formation of the Zoological Society—petticoat protection—and the amusement of the ladies of subscribers and their children were particularly insisted upon. The establishment was to have been on the same miniature scale on which the present Society acts—the various parts and menageries were to be *en petit*—the space was confined—and the idea of inclosing the whole of the inner and outer ring, with the

lake, and undulatory ground, for the formation of as splendid, if not superior an establishment as that of the Garden of Plants at Paris, which—while it would have afforded equally a variety of promenades, groves, and rides, as the Park in its present state affords to the public—would, in addition, have presented one of the noblest spectacles which a nation eager for information and knowledge could desire—was laughed at as Utopian and absurd, because “it promised not to be lucrative” to the Crown and its agents !!

To these numerous societies existing in London, which profess to have science for their object, I would add the Royal Institution of Great Britain—a body of men not all equally scientific, or intended to be such—but who all equally feel a warm interest in the progress of science, and by their united efforts contrive to promote with unerring assiduity the success of scientific investigation. The utility of such an institution, conducted as it has been of late years, is any thing but problematical. Many who would not otherwise have heard the word science pronounced, have become attached to its most popular branches through their exposition and illustration so invitingly laid before them by the various lecturers who profess science in the theatre of this Society. The assemblage of theoretical and practical men, of the amateur of science, and the professor of it—in numbers greater than ever assemble at any other learned society, has effected more in behalf of science than the reading of an hundred papers barely intelligible to the half-sleeping auditors at another society. It has inspired the many with a desire to know more—and the still greater number of those who knew nothing, with an irresistible wish to learn something. Is not this the best eulogium that can be passed on a society formed for the encouragement and promotion of scientific knowledge? But what if it be stated in addition to it, that within the walls of this institution, and with the means which the institution sup-



plied, that one great and sublime discovery was made in chemistry which at once placed Davy by the side of Newton in the category of excellence and immortality, and raised England to the first rank in chemical science?

3<sup>d</sup> *Topic.* The present *real* state of the Royal Society of London for improving natural knowledge.

That the Royal Society is in the most piteous as well as pitiable condition—that its labours have ceased to be looked on with respect by the learned of Europe—that its councils are distracted by intestine dissensions, partialities, and absurdities—that its administration—nay, its very constitution is the least calculated to produce the results for which it was instituted: in fine, that it has become a by-word of contempt to belong to such a society as at *present* constituted, (as a profound and modest chemist and physician declared in our hearing a few days back) may all be true; nevertheless it does not follow that science, generally, in England, is placed in a similar deplorable situation, or that it is likely to bid adieu to these realms. I am ready to admit that, at present, compared to those of France, Germany, and Italy, the only real national academy which was intended to represent science in this country is sunk low indeed; but the cause of this inferiority is not to be sought for in a pretended want of scientific ardour or scientific talents in the country, or the decaying energies of an association which feels the natural attendants on all decrepit bodies. The real cause will be found manifestly to consist in the manœuvres of certain would-be *savans*—their conventicles, and their camerillas—in the inefficient manner in which certain situations and offices are filled to serve personal purposes—in the disgust created by the never-ceasing language of discontent on the part of those who hunger after medals, premiums, places, and orders of merit, with the view of increasing their own per-

sonal importance, and of adding that superiority to their names which the nature of their scientific labours cannot command—and lastly, in the lukewarmness of those who might stem but care not to do so, the current of rebellion by timely concessions, wholesome reforms, and a firm tenacity of purpose. In fact, the Royal Society—or, in other words, science in England, “is without a HEAD.”

Let us now proceed to examine how the Royal Society of London for improving natural knowledge is at present constituted. Let us *dissect her fairly* and extensively—see what she is and what she has been—how she has been governed—by whom she has been really supported—what her labours in the field of science have been—the encouragement she has given to scientific men—the mode in which she has administered the prodigal sums paid by the fellows—the process by which she recruits her ranks from year to year—and finally, let us examine well the inevitable tendency of her present governments to accomplish her ~~own~~ ultimate annihilation.

It is in this part of his “*Exposition*,” that the author ventures to claim some credit for originality. The various points above enumerated are illustrated by facts, and facts alone, industriously collected from the best sources, *from the camp of the enemy*. Their authenticity is indisputable—the force which they will exert is inevitable. If that force be directed against those who, from their noise, seem to wish to be considered as the most immaculate—the conclusion must be final, and will do good. At all events, facts will be allowed to speak for themselves—and no vituperative comment will be made on them. In the dissection of the society, the operator has had no intention to wound one class of members more than another. Invidiousness has had no influence in the separation of classes of men, and of individual merit—the nature of the thing itself required it—

without it the public could not properly and impartially judge of the real condition of the Royal Society—and at this important conjuncture, such an impartial judgment can alone save that learned body; for it must lead to a determination to adopt the only measure likely to stay the threatened mischief, and restore the association to its lost splendour.

In adopting such a plan of operations, the author of this “*Exposition*” had an ulterior object in view (besides that of departing from the course followed by more partial writers who descant on facts, to which they merely allude; whereas he states facts without descanting on them), and that was—the supplying every fellow, and those likely to become such—and still more so, the gifted individuals who may hereafter be called upon to reform the society and administer its interests—with a plain, unvarnished, and easily referable statement, analytical, chronological, and scientific, of the history of that society since the beginning of the present century. To that period has the author purposely limited his researches, and the aggregate of them may perchance be looked upon, hereafter; as the only manual in existence of the Royal Society of London for the last thirty years.

We will proceed first to consider the composition of the Royal Society as taken from the list of the current year, and as the mere number or names of the Fellows composing it would give but a meagre idea of the character of the society as a scientific body, we will place against each individual member his claim to the honour of having been admitted as such, based upon what he may have done in the way of “improving natural knowledge:” for which purpose alone the society was instituted just before the birth of the most illustrious of its subsequent presidents—Newton.

The following Dissection of the Royal Society’s List has never been attempted—but becomes absolutely necessary at the present crisis. The electors will be able, through it,

to judge at once of the truth of my assertion, that those are the most *noisy* on the present occasion who have contributed least to the character and rank of the society—and that the really useful and working members are those who have never cared for notoriety, places, and adulation.

AND NOW TO WORK.

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**DISSECTED LIST**  
OF THE  
**FELLOWS OF THE ROYAL SOCIETY**  
FOR  
**MDCCCXXX.**

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TABLE I.

*Of Bishops, Fellows of the Royal Society, distinguishing those who have contributed to the Philosophical Transactions.*

0	Law, Lord Bishop of Bath and Wells
0	Howley, Lord Archbishop of Canterbury
9	Brinkley, Lord Bishop of Cloyne
0	Magee, Lord Bishop of Dublin
0	Sparke, Lord Bishop of Ely . . . . . 5
0	Huntingford, Lord Bishop of Hereford
0	Webb, Lord Bishop of Limerick
0	Kaye, Lord Bishop of Lincoln
0	Marsh, Lord Bishop of Peterborough
0	Burgess, Lord Bishop of Salisbury . . . 10

TOTAL—9 contributions towards improving natural knowledge by 10 Spiritual Lords.


 The Numbers in the left-hand column refer to the Number of Papers written by the Fellows, and published in the Transactions.

TABLE II.

*Of Noblemen, Fellows of the Royal Society, distinguishing those who have contributed to the Philosophical Transactions.*

0	Earl of Aberdeen	0	Duke of Hamilton
0	Viscount Althorp	0	Earl of Hardwicke
0	Lord Arden	0	Lord Henley ..... 35
0	Duke of Athol	0	Lord Holland
0	Lord A. Beauclerk .... 5	0	Marquess of Lansdowne
0	Lord Bexley	0	Viscount Lowther
0	Earl Breadalbane	0	Lord Lyndhurst
0	Marquess of Bristol	0	Earl of Macclesfield, ... 40
0	Marquess of Bute	0	Viscount Mahon
0	Lord John Campbell .. 10	0	Marquess Samazaro
0	Earl of Carlisle	0	Earl of Mansfield
0	Lord Carrington	0	Viscount Melville
0	Earl of Cassilis	0	Viscount Milton ..... 45
0	Earl Cawdor	0	Earl of Morley
0	Earl of Charleville .... 15	0	Earl of Mount Edgcombe
0	Lord Churchill	0	Earl of Mountnorris
0	Earl Cowper	0	Duke of Norfolk
0	Earl of Darnley	0	Duke of Northumberland 50
0	Earl of Dartmouth	0	Earl of Orford
0	Lord Dacre ..... 20	0	Lord Petre
0	Earl of Dudley	0	Lord Prudhoe
0	Lord de Dunstanville	0	Lord Rokeby
0	Viscount Ebrington	0	Earl of Roseberry .... 55
0	Earl of Egremont	0	Count de Salis
0	Earl of Eldon ..... 25	0	Lord Selsey
0	Lord Farnborough	0	Duke of Somerset
0	Lord Garvagh	0	Earl Spencer
0	Earl of Glasgow	0	Earl Stanhope ..... 60
0	Lord Glenlyon	0	Viscount Strangford
0	Viscount Goderich .... 30	0	Earl Talbot
0	Lord Gray	0	Viscount Torrington .. 63
0	Lord Grenville		

TOTAL—000 contributions towards improving natural knowledge by  
63 Temporal Lords.

TABLE III.

*Of the Officers of His Majesty's Fleet, who are Fellows of the Royal Society, distinguishing those who have contributed to the Philosophical Transactions.*

0	Rear Ad. Sir Rob. Barlow	0	Capt. G. F. Lyon . . . . 15
0	Capt. Beaufort	0	Capt. Jam. Mangles
0	Capt. F. W. Beechey	0	Capt. Fred. Marryatt
0	Rt. H. Ad. Sir G. Cockburn	0	Capt. Sir Murray Maxwell
0	Vice Ad. Sir E. Codrington 5	0	Capt. Henry Napier
2	Commander H. Foster	1	Capt. Sir W. Edw. Parry 20
0	Capt. Sir John Franklin	1	Capt. Ch. Phillips
0	Lieut. M. C. Friend	0	Ad. Sir Ch. Morris Pole
2	Capt. Basil Hall	0	Commander J. C. Ross
0	Lieut. S. Holman . . . . 10	0	Capt. Matthew Smith
0	Commander E. Home	0	Ad. Sir W. S. Smith . . 25
0	Vice Ad. Sir W. J. Hope	0	Capt. W. Henry Smith
0	Capt. Ph. Parker King	0	Vice Ad. Ch. Stirling . . 27
1	Capt. Edw. Lloyd		

TOTAL—7 contributions towards improving natural knowledge by  
27 Naval Officers.

TABLE IV.

*Of the Officers of His Majesty's Land Forces, who are Fellows of the Royal Society, distinguishing those who have contributed to the Philosophical Transactions.*

0	Lieut. Col. J. Baillie	0	Capt. G. H. Hutchinson
0	Lieut. Col. R. Batty	13	Capt. H. Kater
0	Major R. L. Beamish	0	Lt. Col. W. Martin Leake
0	Hon. Lt. Gen. W. Blaquiére	2	Lt. Col. J. Macdonald
0	Lt. Gl. Sir T. M. Brisbane 5	0	Maj. Gl. Sir J. Malcolm 25
0	Col. S. R. Chapman	1	Lieut. Col. George Miller
0	Lieut. Col. T. Colby	0	Major Edw. Moor
0	Hon. Lt. Gen. J. L. Cuming	0	Capt. R. Z. Mudge
0	Lieut. Gen. A. Dirom	0	Right Hon. Sir G. Murray
0	Lt. Gen. Sir R. Donkin 10	0	Col. Ch. W. Pasley . . 30
0	Major Gen. Sir H. Douglas	0	Col. R. E. Roberts
0	Major Gen. Sir B. D'Urban	12	Capt. Ed. Sabine
0	Capt. George Everett	0	Major Ch. H. Smith
0	Hon. Lt. Gl. T. W. Fermor	0	Lieut. Col. T. P. Thompson
0	Lt. Col. G. Fitzclarence 15	0	Lieut. Col. R. Torrens 35
0	Capt. James Franklin	0	Lieut. Col. Sir J. M. Tylden
0	Col. Sir A. S. Frazer	0	Sir Fred. B. Watson
0	Lt. Gen. Sir J. W. Gordon	0	Major Gen. A. G. Wavell
0	Major Gen. T. Hardwicke	0	Col. Mark Wilks . . . . 39
0	Hon. Col. F. G. Howard 20		

TOTAL—28 contributions towards improving natural knowledge by  
39 Army Officers.

TABLE V.

*Clergymen who are Fellows of the Royal Society for 1830, distinguishing those who have contributed to the Philosophical Transactions.*

0	Revd. Archibald Alison	0	Re v. J. P. Higman
0	— H. H. Baker	0	— R. Hodgson, D.D.
0	— F. H. Barnwell	0	— George Hunt . . . . 40
0	— J. H. Batten, D.D.	0	— J. D. Hustler
0	— W. F. Bayley . . . . 5	0	— P. Jennings, D.D.
0	— Miles Bland, D.D.	0	— W. Kirby
0	— Bewick Bridge, D.D.	2	— W. Lax
1	— W. Buckland, D.D.	0	— D. Lardner, LL.D. 45
0	— C. Parr. Burney, D.D.	0	— Francis Lunn
0	— E. J. Burrow, D.D. 10	0	— Daniel Lysons
0	— George Butler, D.D.	0	— J. W. Mackie
0	— Samuel Butler, D.D.	0	— J. Maddy
0	— Henry Card, D.D.	0	— T. R. Malthus. . . . 50
0	— W. H. Carr, B.D.	0	— E. Maltby, D.D.
0	— T. Caton, B.D. . . . 15	0	— Charles Mayo, B.D.
0	— J. S. Clarke, LL.D.	0	— Robert Morison, D.D.
0	— Henry Coddington	0	— Robert Nixon, B.D.
0	— W. D. Conybeare	0	— J. Oldershaw, B.D. 55
0	— John Corrie	0	— T. Parkinson, D.D.
0	— Daniel Cresswell. . 20	0	— George Peacock
0	— Alexander Crombie	0	— W. Pearson, LL.D.
0	— James Cumming	0	— Baden Powell
0	— Martin Davy, D.D.	0	— Thomas Rackett . . 60
0	— W. Dealtry, D.D.	0	— George Rowley, D.D.
0	— Richard Dixon 25	0	— James Rudge, D.D.
0	— G. D'Oyly, D.D.	0	— T. Sampson, D.D.
0	— Henry Drury	3	— W. Scoresby
1	— Fearon Fallows	0	— J. B. Seale, D.D. 65
1	— George Fisher	0	— Adam Sedgwick
0	— Henry Fly, D.D. . . 30	0	— John Sleath, D.D.
0	— Josiah Forshall	0	— G. A. Thursby
0	— S. J. Gardiner	0	— J. M. Traherne
0	— E. Goodenough, D.D.	0	— W. Vernon . . . . . 70
0	— John Hailstone	0	— Henry Walter, B.D.
0	— H. P. Hamilton 35	1	— W. Whewell
0	— R. Hamilton, D.D.	0	— Samuel Wix
0	— Henry Hasted	0	— Francis Wrangham 74

TOTAL—8 contributions towards improving natural knowledge by 74 clergymen; or 0.108 of a Paper each.

TABLE VI.

*List of Fellows of the Royal Society (1830) who are titled in the law, learned in the law, or practising the law.—Distinguishing those who have contributed to the Philosophical Transactions.\**

0	J. Proctor Anderson	0	Henry Bellenden Ker
0	James Andrew, LL.D.	0	John Knowles
0	James H. Arnold, LL.D.	0	J. G. Shaw Lefevre . . . 35
0	William Battine, LL.D.	0	Rt. Hon. Sir J. Mackintosh
0	Rt. H. Sir J. Beckett, Bt. 5	0	Ashhurst Magendie
0	John Bell,	0	James H. Markland
0	James E. Bicheno	4	William Marsden, LL.D.
0	Thomas Shaw Brandreth	0	John Thomas Mayne . . . 40
16	David Brewster, LL.D.	0	William Taylor Money
0	W. John Broderip . . . . 10	0	R. H. Sir J. Michell, LL.D.
3	Henry Brougham	0	Francis Palgrave
0	Sir W. Burroughs, Bart.	0	Rt. Hn. Sir R. Peel, D.C.L.
0	Sir C. E. Carrington, LL.D.	0	Louis Hayes Petit . . . . 45
0	G. L. Newnham Collingwood	0	John Delafield Phelps
0	R. H. J. W. Croker, LL.D. 15	0	David Pollock
0	Edward Robert Daniell	0	Frederick Pollock
0	Sir Ed. Hyde East, Bart.	0	John Reeves
0	Henry Ellis, LL.D.	0	Jesse Watts Russell, D.C.L.
0	John Gage	1	Sir J. Sewell, LL.D.
0	Mr. Baron Garrow . . . . 20	0	R. H. Sir J. Sinclair, D.C.L.
0	John Gillies, LL.D.	0	Sir J. F. Staunton, D.C.L.
0	Right Hon. Charles Grant	0	Sir E. Stracey, Bart. LL.D.
0	Henry Hallam	0	G. F. Stratton, LL.D. . . 55
0	Sir Thomas Hanmer	0	Charles Tennyson
0	John S. Harford, LL.D. 25	1	John Lewis Tiarks
0	William Harrison	0	Sir Charles Wetherell
0	George Harrison	0	John Wishaw
0	Robert Holford	2	Charles Wilkins, LL.D. 60
0	W. Jackson Hooker, LL.D.	0	Sir J. E. Wilmot, bt. D.C.L.
0	Sir R. H. Inglis, Bt. LL.D. 30	1	Sir Giffin Wilson
0	Joseph Jekyll	0	Rt. Hn. C. W. W. Wynn 63
0	Sir Alexander Johnston		

TOTAL—28 contributions towards improving natural knowledge by sixty-three men of law, or  $\frac{2}{3}$  of a paper each.

\* It is likely that some errors, particularly of omission, may have crept into this List. On consulting three or four eminent lawyers for information, which was communicated freely and carefully, I found that it is no easy matter to ascertain, out of a large number of persons, those who have made law their study or profession, as this profession is not like divinity or medicine, always marked by a distinguishing initial or other character.



TABLE VII.

*Physicians who are Fellows of the Royal Society, distinguishing those who have contributed to the Philosophical Transactions.*

0	B. C. Babington	1	D. Hosack
0	W. Babington	4	J. R. Johnson
0	C. Badham	2	J. Kidd
0	A. Baird	1	J. Latham
0	J. Baron ..... 5	0	J. Latham (alter) ..... 45
0	W. Beatty	1	W. E. Leach
0	J. Blackman	1	R. Lee
1	G. Blane (Sir)	2	J. Macartney
1	J. Bostock	0	J. Macculloch
0	R. Bree ..... 10	0	J. Macgregor ..... 50
0	R. Bright	0	W. Macmichael
0	J. Burns	0	E. Magrath
0	J. Butter	0	W. G. Maton
0	W. F. Chambers	0	G. P. Morris
0	C. M. Clarke ..... 15	0	W. Nicholl ..... 55
0	J. Cooke	0	J. A. Ogle
0	A. Crichton (Sir)	0	J. A. Paris
1	R. W. Darwin	1	C. H. Parry
0	C. Daubeney	0	L. Pepys (Sir)
13	J. Davy ..... 20	7	A. P. W. Philip ..... 60
0	W. T. Edwards	0	J. C. Pritchard
0	J. Elliotson	4	W. Prout
0	J. Fellowes	0	J. Richardson
0	S. Ferris	0	E. Roberts
0	W. H. Fitton ..... 25	0	J. Rogerson ..... 65
0	J. Forbes	2	P. M. Roget
0	R. Fowler	0	C. Scudamore (Sir)
0	J. Frank	0	J. Sims
0	W. Franklin (Sir)	0	H. H. Southey
1	G. S. Gibbes (Sir) .... 30	0	J. Storer ..... 70
3	A. B. Granville	0	A. R. Sutherland
0	T. Gray (Sir)	2	T. Thomson
0	H. Halford (Sir)	0	J. Thomson
1	J. Harwood	0	G. L. Tuthill (Sir)
0	A. Hay ..... 35	2	A. Ure ..... 75
2	W. Heberden	0	N. Wallich
10	W. Henry	0	P. Warren
1	H. Holland	0	G. D. Yeates
2	T. C. Hope	0	J. Yellowly ..... 79
0	F. Horsfield ..... 40		

TOTAL—66 contributions towards improving natural knowledge by 79 M.D.'s.

TABLE VIII.

*Surgeons who are Fellows of the Royal Society, distinguishing those who have contributed to the Philosophical Transactions.*

3	J. Abernethy	2	H. Earle
5	Ch. Bell	0	J. H. Green
1	W. Blizard, (Sir)	0	G. J. Guthrie
6	B. C. Brodie	109	E. Home, (Sir)..... 15
0	J. Brooks..... 5	0	A. C. Hutchison
0	S. D. Broughton	0	H. Mayo
7	A. Carlisle, (Sir)	0	T. S. Pettigrew
0	J. G. Carpue	0	E. Stanley
2	A. P. Cooper, (Sir)	1	H. L. Thomas..... 20
1	R. B. Cooper ..... 10	0	B. Travers..... 21
0	Ph. Crampton		<i>Wm. Lawrence</i>

TOTAL—137 contributions towards improving natural knowledge by 21 surgeons, or, more properly speaking, nearly  $\frac{1}{2}$  of the 137 contributions by one surgeon, and  $\frac{1}{2}$  by twenty surgeons besides.

As one would naturally look for the greatest share of practical science in the two last classes of fellows, particularly of those branches which are connected with the profession of the fellows—and as their admission into this scientific body may be supposed to have taken place, at those times, in which they had acquired most reputation, or had contributed most to the object of that Society which admitted them—it will be curious to examine the seniority of their admission and compare it with the number of their contributions or quantity of scientific attainments, as specified in the two last alphabetical lists. We shall then see that those have been most eager to get into the Society, and by the inertness of its laws and regulations, succeeded in their object, who have done nothing—whereas, many who have worked year after year in the field of science were purposely kept back, and dared not oppose the current of professional jealousies, antipathies, and partialities which stared them in the face, and which not unfrequently, when braved, have been successful in casting the stain of a black ball on the names of one or two of the most distinguished individuals.

I need not more pointedly allude to their names. They will suggest themselves readily to those versed in the manœuvres of some of the frequenting members of the ordinary meetings of the Society.

TABLE IX.

*Seniority List of the Physicians who are Fellows of the Royal Society.*  
(1830.)

1773.	1801.
J. Latham, M.D. (Ornithologist).	J. Latham, M.D.
1778.	1802.
A. Hay, M.D.	R. Fowler, M.D.
1779.	1805.
J. Rogerson, M.D.	Wm. Babington, M.D.
1780.	G. P. Morris, M.D.
Sir Lucas Pepys, M.D.	1808.
1784.	R. Bree, M.D.
Sir Gilbert Blane, M.D.	1809.
1788.	W. Henry, M.D.
R. W. Darwin, M.D.	1810.
1791.	Sir H. Halford, M.D.
Wm. Heberden, M.D.	T. C. Hope, M.D.
1794.	Sir G. L. Tuthill, M.D.
J. Blackman, M.D.	1811.
1796.	J. Macartney, M.D.
G. S. Gibbes, M.D.	T. Thomson, M.D.
1797.	1812.
S. Ferris, M.D.	Ch. H. Parry, M.D.
1799.	1813.
E. Roberts, M.D.	P. Warren, M.D.
1800.	1814.
Sir A. Crichton, M.D.	J. Davy, M.D.
W. G. Maton, M.D.	J. Sims, M.D.
	J. Yellowly, M.D.

1815.

W. H. Fitton, M. D.  
 Sir T. Gray, M. D.  
 H. Holland, M. D.  
 P. M. Roget, M. D.

1816.

J. Fellowes, M. D.  
 D. Hosack, M. D.  
 W. E. Leach, M. D.  
 Sir J. Macgregor, M. D.  
 J. Storer, M. D.

1817.

A. B. Granville, M. D.  
 J. Rawlins Johnson, M. D.  
 W. Machmichael, M. D.

1818.

C. Badham, M. D.  
 W. Beatty, M. D.  
 J. Bostock, M. D.

1819.

G. Magrath, M. D.  
 W. Prout, M. D.  
 G. D. Yeats, M. D.

1820.

Sir W. Franklin, M. D.  
 J. Macculloch, M. D.

1821.

R. Bright, M. D.  
 J. Cooke, M. D.  
 J. Frank, M. D.  
 J. A. Paris, M. D.  
 A. Ure, M. D.

1822.

J. Butter, M. D.  
 Ch. Daubeney, M. D.  
 J. Kidd, M. D.

1823.

J. Baron, M. D.

1824.

Sir Charles Scudamore, M. D.  
 J. Thomson, M. D.

1825.

Ch. M. Clarke, M. D.  
 J. Richardson, M. D.  
 H. H. Southey, M. D.

1826.

J. A. Ogle, M. D.  
 A. P. W. Philip, M. D.

1827.

J. Harwood, M. D.  
 J. C. Pritchard, M. D.

1828.

B. G. Babington, M. D.  
 A. Baird, M. D.  
 W. F. Chambers, M. D.  
 T. Horsfield, M. D.  
 A. R. Sutherland, M. D.

1829.

W. T. Edwards, M. D.  
 J. Elliotson, M. D.  
 J. Forbes, M. D.  
 N. Wallich, M. D.

1830.

J. Burns, M. D.  
 R. Lee, M. D.  
 W. Nicholl, M. D.  
 E. Turner, M. D.

TABLE X.

*Seniority List of the Surgeons who are Fellows of the Royal Society.  
(1830.)*

1787.	1819.
Sir W. Blizard.	J. Brookes.
Sir E. Home.	1822.
1796.	H. Earle.
J. Abernethy.	1825.
1802.	J. H. Green.
Sir A. Cooper.	1826.
1804.	Ch. Bell.
Sir A. Carlisle.	1827.
1806.	G. J. Guthrie.
H. L. Thomas.	T. J. Pettigrew.
1809.	1828.
B. C. Brodie.	H. Mayo.
1813.	A. C. Hutchison.
B. Travers.	1830.
1817.	S. D. Broughton.
J. C. Carpue.	R. B. Cooper.
P. Crampton.	E. Stanley.

Of the 79 doctors in physic, who are at present Fellows of the Royal Society, it would appear then, that, only 23 have contributed to the Philosophical Transactions, and of this number 10 only are resident in the metropolis, the other 13 Fellows being constant sojourners in the country. The papers which these ten metropolitan physicians have produced, out of the total of 66 above quoted, and which have been published, are 23 in number. The rest have been communicated by the 13 provincial physicians constituting, with the former 10, the total of *efficient* fellows of the Royal Society whose profession is medicine. Here then is a glaring example of the indifference with which almost any claimant is suffered to

enter the Society. The mischief which is produced by such a practice is manifested in the apathy of the really scientific men, who cease to take any interest in the welfare of an association of individuals so constituted. A certain quantity of scientific knowledge, observes Mr. Babbage, is of course possessed by many individuals in many professions, and to that of medicine a knowledge of chemistry, and of some branches of natural history, and indeed of several other departments of science, affords useful assistance; but it is obvious that this quantum of knowledge may become, when separated from the profession, quite insignificant as the basis of scientific reputation. If this be true, and who can doubt it, then the indiscriminate practice of raising physicians by the dozen to the dignity of members of a society for which the chief qualification ought to be scientific reputation, independent of professional character—in spite of the known fact, that such physicians have not the smallest pretension to pure scientific knowledge beyond what forms the common elements of the profession which gives them bread—may be justly considered as one of the causes of the decline of the Royal Society. Still more injurious must such a practice prove, when physicians, who have never offered to contribute the smallest particle of scientific information to the Society, or to the world at large, are allowed to present themselves, as candidates for an honour which they have not deserved—for which they do not even urge any plausible pretension—and when it is manifest to the whole Society, that such candidates cannot prove either “useful” or “valuable members thereof.”

Of the fellows and licentiates of the Royal College of Physicians in London there are 226 who actually practise in the metropolis, and ten only of that number have given proofs of cultivating science for its sake, and even they, with two or three exceptions, have not acquired a purely scientific reputation by their labours. See then how trifling is the measure

of scientific merit in the medical profession ; yet, through the prevailing absurd practice of relying, as to the reality of the claims of candidates, upon a mere certificate, which, it has been proved, may be obtained by any one and at any time, not fewer than 66 out of the 226 physicians practising in London have been placed on the same rank as F.R.S. with individuals who have far other claims to the dignified appellation of scientific men. The whole concern, in good truth, is a complete farce ; and my astonishment is, that when such elections take place the electors do not burst out in roars of merriment at the solemnity, with which the secret votes are collected in behalf of a candidate, whose whole known tenor of life is in overt contradiction with the professions and descriptions read aloud, and with due pomp, by one of the secretaries.

The number of surgeons who are to be found on the list of the Royal Society is a curious contrast to that of the physicians in many respects—it is smaller by ~~37~~—it contains only one member who is not resident in the metropolis—has produced more than double the number of scientific communications to the Philosophical Transactions—and boasts of not fewer than 15 hospital surgeons, most of whom are in the first practice, and have acquired a high character, both in England and on the Continent, for their scientific attainments. But how is it, that while M.D.s crowd upon the list of the Royal Society, the M.C.S.s are like “rari nantes” in that over-swelling ocean of F.R.S.s ? Why do we not see figure by the side of this small band of metropolitan surgeons in our Society a few of the truly eminent surgeons of provincial hospitals ? Those can best answer these interrogatories who have managed our affairs since the beginning of the present century, and none better than the “noisy ones.”

After such a picture of the medico-chirurgical section of our list, who can abstain from suggesting to the Society the propriety of putting a stop, for the present, to the election

of doctors of physic, except under circumstances of the most manifest eminence for science in the candidate? This will gradually restore to the initials of F.R.S., when accorded to a physician, the dignity and value they have lost; while, with a view to maintain intact the existing respectability of our fellows who are surgeons, it should be resolved that none other shall be balloted for who has not distinguished himself for extraordinary operations, or brilliant and useful literary or scientific productions, whether resident in town or in the country. Woe to the present 21 surgeons, if they from supineness suffer any candidate to be added to their number whose claim to that distinction is far different from their own;—and still more, woe to their character, if such unworthy additions be made, hereafter, through the influence of their own names inconsiderately tacked to certificates for ballot.

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TABLE XI. AND LAST.

*Of the Fellows of the Royal Society who are not included in any of the preceding Tables, distinguishing those who have contributed to the Philosophical Transactions.*

0	Thomas Allan	0	William Blane
3	William Allen	0	Richard Blanshard
0	Thomas Amyot	0	Thomas Blizard
7	Charles Babbage	0	George Simon Borlase
1	Francis Baily	0	Samuel Bosanquet
0	William John Banks	0	Sir Wm. Ed. Rouse Boughton
0	Peter Barrow	0	Right Hon. Wm. Sturges Bourne
0	Edward Barnard	0	Hon. Courtenay Boyle
0	Rev. Frederick Henry Barnwell	12	William Thomas Brande
0	John Barlow	0	William Bridgman
2	Francis Bauer	1	Sir Edward Ffrench Bromhead
1	John Bayley	0	Sir A. Brooke de Capell Brooke
0	Henry Beaufoy	0	Henry James Brooke
0	Henry Thomas De-la-Bèche	0	Nicholas Brown
0	William Beetham	0	Robert Brown
0	Thomas Bell	0	Henry Browne
0	John Laurens Bicknell	0	Mark Isambard Brunel
0	Robert Bingley	0	William Archibald Cadell
0	John Blackburne	0	John Caley
0	William Blake	0	William Camac
0	Michael Bland	0	Rt. Hon. Reginald Pole Carew



0	Hon. & Rev. Richard Carleton	1	John Griffiths
0	Nicholas Carlisle	3	Stephen Groombridge
1	Joseph Carne	0	John Guillemard
0	John Carstairs	0	Hudson Gurney
0	Francis Chantrey	0	Thomas Henry Hall
0	Lewis Andrew de la Chaumette	0	Sir James Hall
3	John George Children	0	John Hall
10	Samuel Hunter Christie	0	Archibald Hamilton
0	Loftus Longueville Clarke	0	William Richard Hamilton
0	William Stanley Clarke	0	Francis George Hare
0	Sir George Clerk	2	George Harvey
2	William Clift	0	Henry Harvey
0	Henry Thomas Colebrooke	16	Charles Hatchett
0	Sir James Edward Colebrook	0	Graves Chamney Haughton
0	William Cotton	0	Edwards Hawkins
0	John Crawford	0	John Hawkins
0	Sir John Croft	0	John Hawkins
2	John Dalton	0	Robert William Hay
1	John Frederick Daniell	0	George Craufurd Heath
1	John Francis Davis	1	Henry Hennell
0	Richard Hart Davis	12	John Fred. William Herschel,
2	Edmund Davy	0	George Hibbert
0	John Dickenson	0	Philip Hills
0	Lewis Weston Dillwyn	0	Charles Hoare
1	George Dollond	0	Henry Hugh Hoare
0	William Robert Keith Douglas	0	Sir Richard Colt Hoare
0	Sir George Duckett	0	Sir Benjamin Hobhouse
0	Alexander Duncan	0	John Cam Hobhouse
0	Lovell Edgeworth	0	Thomas Hoblyn
0	Neil Benjamin Edmonstone	0	Thomas Hope
0	Sir William Elford	0	Leonard Horner
0	Sir William Francis Elliott	1	James Horsburgh
0	Hon. G. J. Welbore Agar Ellis	0	Rt. Hon. R. J. Wilmot Horton
0	John Ellis	1	Luke Howard
0	Henry Ellis	0	Sir Abraham Hume
8	Michael Faraday	0	Joseph Hume
0	Robert Fergusson	7	James Ivory
0	Rt. Hon. Wm. Vesey Fitzgerald	0	William Jacob
0	William Nairn Forbes	0	Robert Jameson
2	Henry Foster	0	Richard Paul Jodrell
1	Sir Thomas Frankland	24	Thomas Andrew Knight
0	William Franks	1	Charles König
0	Capriano Ribeiro Freire	0	Aylmer Bourke Lambert
0	Samuel Galton	0	Thomas Legh
0	Sir William Gell	0	Sir Charles Lemon
2	Davies Gilbert	0	Rt. Hon. Thos. Frankland Lewis
5	John Goldingham	0	John Lindley
0	Isaac Lyon Goldsmid	0	John Liptrap
3	Benjamin Gompertz	0	Edward Hawke Locker
0	George Trenchard Goodenough	0	Sir John William Lubbock
0	Thomas Gordon	0	John William Lubbock
0	Right Hon. Henry Goulburn	0	Edmund Henry Lushington
0	Lewis Alexander Grant	0	Charles Lyell, jun.
0	Richard Wilson Greatheed	0	Zachary Macaulay
1	Thomas Greatorex	0	Charles Mackenzie
0	George Bellas Greenough	0	Sir George Stewart Mackenzie
0	Richard Gregory	0	William Alexander Mackinnon

0	Charles Macintosh	0	John Sharpe
0	Alexander Mac Leay	0	Charles Short
0	Ebenezer Fuller Maitland	0	Sir Francis Shuckburgh
0	Lewis Majendie	0	Richard Simmons
0	Gideon Mantell	0	John Smirnov
0	Thomas James Mathias	0	John Spenser Smith
0	John Maxwell, Esq.	0	Joseph Smith
0	Alexander Melville	0	Robert Smith
0	César Moreau	0	Sir William Smith
0	Charles Morgan	0	William Smith
7	William Morgan	0	Thomas Snodgrass
0	James Morier	0	John Soane
0	Roderick Impey Murchison	0	Richard Horsman Solly
0	Thomas Murdoch	0	Samuel Solly
0	William Chadwell	0	Samuel Reynolds Solly
0	Macvey Napier	0	William Sotheby
0	Sir George Nayler	3	James South
0	Sir Thomas Neave	0	William Speer
0	Charles Savill Onley	0	John Spencer Stanhope
0	George Ormerod	0	Sir John Thomas Stanley
0	Right Hon. Sir Gore Ouseley	0	John Robert Steuart
0	Woodbine Parish	0	William Ford Stevenson
0	Thomas Lister Parker	0	Sir Walter Stirling
0	William Pearson	0	Charles Stokes
0	George Pemberton	0	Anthony Mervin Reeve Storey
0	Edward Wm. Wynne Pendarves	0	Hon. W. T. H. Fox Strangways
0	Richard Penn	0	William Strutt
0	David Pennant	0	George Holme Sumner
6	William Hasledine Pepys	0	William Swainson
0	Roger Petriward	0	Sir John Edward Swinburne
0	Sir Thomas Phillipps	0	John Symmons
1	Richard Phillips	0	John Taylor
0	Thomas Phillips	0	George Watson Taylor
0	Lewis Pinto de Souza Coutinho	0	Thomas Telford
0	William Morton Pitt	0	James Thomson
0	Sir George Pocock	0	John Deas Thomson
0	William Pole	0	Rt. Hon. Sir Edward Thornton
19	John Pond	0	Robert Stearn Tighe
0	John Ramsbottom	0	William Edward Tomline
0	William Rashleigh	0	Peregrine Edward Towneley
1	George Rennie	0	George Townley
0	John Rennie	0	John Trotter
0	Charles Milner Ricketts	1	Edward Troughton
0	John Rickman	0	Charles Augustus Tulk
0	Stephen Peter Rigaud	0	Peter Evan Turnbull
4	William Ritchie	0	Dawson Turner
1	James Robertson	0	Charles Hampden Turner
0	Samuel Rogers	0	Samuel Turner
0	Edward Rudge	0	William Vaughan
0	Joseph Sabine	0	Baron Nicholas Vay de Vaja
0	Sir John St. Aubyn	0	Nicholas Aylward Vigers
0	George Saunders	0	John Henry Vivian
0	Henry Barne Sawbridge	0	Sir Richard Rawlinson Vyvyan
2	John Corse Scott	0	James Walker
0	George Poulett Scrope	0	Henry Warburton
3	Sir Robert Seppings	0	John Ashley Warre
0	Richard Sharp	0	Right Hon. Sir Geo. Warrender

0	Sir Frederick Beilby Watson	3	John Lloyd Williams
0	James Watt	0	John Williams
1	Thomas Weaver	0	Glocester Wilson
0	Frederick Webb	0	William Wix
0	John Weyland	0	Alexander Luard Wollaston
3	Joseph Whidbey	0	William Wood
0	Sir Robert Wigram	0	Right Hon. Chas. Philip Yorke
0	George Wilbraham		

Total 187 contributions, towards "improving natural knowledge," by 286 Fellows of the Royal Society, who follow no particular profession, clerical, medical, or legal, but some of whom are engaged in trade, in the mechanical and the fine arts; and a few are teachers of science or literature: being a proportion of contributions by each such Fellow = to 0,6538 of a paper in the Philosophical Transactions.

From the perusal of the preceding documents, my readers will rise with the full conviction that, in the election of its members, the Society has not often considered the real interests of science, or its dignity as a scientific body. Few, very few indeed, of the several hundred fellows classed in the manner I have exhibited them to the public, had not, when elected, or have even at this moment, any pretension to be considered as scientific men—few who could be expected to become useful and valuable members—few who cared for the admission, except as it conferred on them an appellation which it was at one time the custom to look upon as honorable.

I bestowed as much pains, as I did in the construction of the other tables contained in this Expostulation, upon the drawing up of a chronological enumeration of those individuals who, at the time of their election into the Royal Society, as well as subsequently, enjoyed, by common consent, the character of scientific men, as well for their printed works or memoirs, as for their communications to the Philosophical Transactions; or for their well-known and acknowledged personal labours in the field of science—distinguishing the branches of science to which they had principally directed their attention. But when I had completed and scrupulously examined my list—and even submitted it to the judgment of one or two friends, well acquainted with what is usually denominated

the scientific world, in order neither to omit any name who might be truly deserving of the honor of being enrolled in so distinguished a catalogue, nor place upon it the names of persons who carry about with them a certain kind of reputation as scientific men, without ever having done one act, or uttered a thought, recorded afterwards, or worthy to be recorded, in the pages of the history of science ; I found that the work repaid not its trouble, and that, were I to give publicity to so much poverty of genius among the fellows, by bringing forward the rare exceptions amongst them, I should be exciting unpleasant feelings, without producing an equivalent beneficial result. Among the recruits, in particular, with which the ranks of the Royal Society have been swelled, of late years, from five to seven hundred fellows, it would have been difficult indeed to have singled out more than half-a-dozen of hard-working, inquiring, and experimental men of science who have rendered themselves conspicuous by their labours, and have added to the scientific character of their nation no mean increase of lustre. A few more I might have selected, besides, whose only claim was a single paper, read at the Society, of which they were soon after made members, even when that paper *had been deemed by the Council* unworthy of appearing in the Transactions. But by far the greater number of the late elections, had I pursued my plan, would have been found to have consisted of individuals who had not even thought it worth their while to write a single paper before they claimed to enter the *sanctuary* of science.

Now it would have been far from a pleasing task to have brought to light, in a more distinct manner than the public seem to be already aware of, all this comparative deficiency, by the enumeration of persons classed according to individual merit.

Again, I found that when I came to affix a distinctive character to each "fellow," by denoting the branch of science

with which his name was more commonly associated—a very great number, even of my selected “fellows,” could not conscientiously be distinguished by any specific title in my tabular enumeration; while, on the other hand, there were arranged on my list several, whose pursuits seem to mark them out as astronomers, mathematicians, experimental philosophers, chemists, naturalists, and physicians—but whose labours, in those respective branches of science, have been too insignificant to merit being singled out from the rest. On the whole, therefore, I thought it better to omit my comparative catalogue of “single and double stars” in our firmament of science, than to expose, by their enumeration, their individual want of lustre, and the total darkness, besides, which surrounds them, and which they were insufficient to illumine. Conscientiously I could not, without detriment to science, have selected from among those fellows who have been elected since the first year of the present century, more than thirty really illustrious men of science, whose names will be pronounced with the same respect by posterity, with which they have been or are looked upon by their contemporaries. Two Davys, a Brinkley, a Playfair, a Marcet, a Henry, a Cooper, a Chenevix, a Troughton, a Brown, a Herschel, two Brunnels, a Kater, an Ivory, a Brewster, a Babbage, a Malthus, a Bostock, a Prout, a Dollond, a Watt, a Dalton, a Bailey, a South, a Clift, a Barlow, a Faraday, a Christie, a Bell, a Wilson-Philip, and a Lindley, form the glorious band, out of the hundreds of elected “fellows” in the present century. Their labours have not only strengthened the domain, but likewise extended the boundaries of science. The rest are either mere lookers on—indifferent spectators—or, at most, cultivators of what beds of flowers they found in the rich garden of natural knowledge when they first entered it. Some of the latter, a few truly, have been more assiduous than others, but they have reared no new tree

of knowledge, nor expanded the branches of those already planted, nor enriched the beds on which they found those trees luxuriating.

In the last few years more especially, the "elect" have been of the latter description, with two or three exceptions; and however respectable (and they are most decidedly so) those "elect" may be as private individuals, they have not brought to the common stock either the influence of name, the influence of industry, or that of an inquiring spirit.

Thus far as to the structure and composition of the Royal Society. We will now proceed, upon the same plan of collating facts, to consider what this Society has effected in behalf of science, or, in other words—what have been its contributions to general science, or to any branch of it, since the beginning of the 19th century. Here, again, I shall produce the result of my inquiries into official documents. The measure of the labours of the Royal Society may be said to be found in its Transactions; but as the Transactions do not exhibit a correct view of all the labours of the fellows, many of which have been rejected without assigning any ground, it becomes necessary to go a little more behind the scenes, in order to judge correctly of the extent of contributions which scientific men have forwarded to the Royal Society, and ascertain what has been their result. This general view of the labours of all those who addressed papers to the Royal Society, I have been able to form by the careful examination of the official records kept in the archives of the Society, and open to the inspection of every member. In giving publicity, for the first time, to the result obtained from such an examination, I conclude that I am doing service to science; and that I assist the public in forming a just estimate of the manner in which the interests of science have been treated by those who, for a succession of years, have secured to them-

selves the sole management of the Society. I shall detail facts—and the facts must speak for themselves.

In the course of thirty-one years—that is from the latter end of 1799, to June 1830, one thousand memoirs or written communications were presented to the Society; and after having been read at the ordinary meetings of the fellows, either wholly or in part, were submitted to the judgment of a “committee of papers,” whose duty it is to determine whether such memoirs or written communications shall be printed in the Transactions or not. This committee of papers consist of members of the council who assume the adjudicative functions respecting every communication sent in, no matter of what nature or description. The manner in which these councilmen determine the fate of such communications is by ballot. The result of their deliberation is then recorded in a book of minutes kept for that purpose; and the nature of that result is specified in the minutes by certain laconic formulæ of expression, without one particle of reason or ground being alleged, at the same time, for the recorded decision of the committee. Thus, a paper is either “postponed,” (that is the consideration of it) or is not considered (an expression which appears to have crept in only of late years). It occasionally happens that “postponed” papers are at last rejected, or never mentioned after—but the number of them is so small that I have not taken them into separate account, but classed them with some of the rest. Again, a paper has been ordered to be deposited in the “archives” of the Society—or it has been ordered “to be printed”—or “not to be printed.” In one or two instances, during a period of thirty-one years, a MS. communication to the Society has been directed “to be handsomely bound and placed in the library of the Society.” The last expressions which I found employed in noticing the fate of a paper before this secret tribunal, speak sufficiently

for themselves. These are "withdrawn," or recommended to be "withdrawn."

There is reason to believe that, although the papers are finally subjected to the opinion of all the attendant members of the said committee, of whom, sometimes several, at other times, very few only are present, every communication is supposed to have been previously put into the hands and referred to the judgment of some competent member who reports his opinion, and then leaves the committee to deal with the paper as they may think fit. Vastly objectionable as such a course may seem on many accounts, it would still be better than to have recourse to a more summary proceeding, were it oftener adopted. But I have heard it asserted that much oftener is the fate of a paper committed to the chances of the mere yea-and-nay box, than to the decision of a competent judge instructed to offer a preliminary opinion upon its merits.

Now were it possible that the members of such a committee should be conversant with all the infinite varieties of scientific subjects touched upon in the papers submitted for their adjudication—the ordeal to which those papers would be thus exposed, might be considered the fairest that any author could expect; provided always that he were at the same time protected against partialities and hostilities. But it so happens that at many of these meetings, members of the committee of papers have been present who have not the smallest pretension to any knowledge whatever of the subject under consideration, or indeed to science in general; and therefore give their opinion respecting the propriety or impropriety of publishing a paper read before the Royal Society, without being *judices in materiâ*. What the consequences of so clumsy an arrangement must be need scarcely be pointed out. After inspecting the records of the last thirty-one years to which I allude, I am lost in astonishment that those consequences



should not have been more injurious, more ridiculous, or more frequent. For assuredly it cannot be expected that a sculptor for instance, a painter, a secretary to the Admiralty, an astronomer royal, and a botanist, congregated together, should come to a right decision respecting the propriety of publishing a paper on phisiology or internal anatomy! Yet such things have come to pass.

It has, from time to time, happened that papers of great importance, and concerning some of the higher branches of natural philosophy, mechanics, chemistry, &c. have been postponed from meeting to meeting, and for months together, for want of members qualified to judge of their real or intrinsic value. In one case which I shall quote, this method of postponement led to a curious conclusion. A paper was taken into consideration at one meeting in 1809, "on the progress of floating bodies in stream." There were, besides the president, eight members present; and of this number the illustrious Cavendish was one, who, with Wollaston and the late Mr. Rennie, were the only members of the committee capable of determining the value of such a paper; although even Wollaston, I believe, was but indifferently versed in the science of hydraulics. Well, the fate of the paper at that meeting was postponed, because (say the minutes) "the negative and the affirmative votes were equal." At the next meeting, three of the former jurors were absent, and two new ones—the one a doctor of physic, now no more, were added; making the total number present less, by one, than on the former occasion. The question of printing the paper was then put, but was lost. The paper has since been admitted to be a curious and clever performance—and the author, a captain in His Majesty's fleet, had acquired the character of a scientific man—so much so, indeed, that after the rejection of the paper, he was elected into the Royal Society, at which, however, he refused to be admitted.

I will now give, in a tabular form, the result of my inquiries respecting the thousand papers sent by different authors to the Royal Society, between the latter part of 1799 and the 28th June, 1830, remarking that, in the table, the initials N. P. stand for "not printed"—W. for "withdrawn"—T. B. P. for "to be printed"—and A. for "archives"; and also that I have coupled, for the sake of expedition, two years together, so as to make the reports biennial instead of annual. Such an arrangement cannot in any way influence the ultimate numbers.

TABLE OF THE ADJUDICATION OF PAPERS.

1800 } 8, NP. 4, W. 48, TBP.	1816 } 10, NP. 5, W. 51, TBP.
1801 }	1817 }
1802 } 23, NP. 1, W. 36, TBP.	1818 } 20, NP. 5, W. 54, TBP.
1803 }	1819 }
1804 } 12, NP. 2, W. 38, TBP.	1820 } 11, NP. 8, W. 50, TBP.
1805 }	1821 }
1806 } 11, NP. 3, W. 37, TBP.	1822 } 5, NP. 12, W. 66, TBP.
1807 }	1823 }
1808 } 11, NP. 2, W. 52, TBP.	1824 } 2, NP. 9, W. 7, A. 50, TBP.
1809 }	1825 }
1810 } 8, NP. — 35, TBP.	1826 } 2, NP. 7, W. 7, A. 49, TBP.
1811 }	1827 }
1812 } 12, NP. — 58, TBP.	1828 } 7, NP. 11, W. 52, TBP.
1813 }	1829 }
1814 } 10 NP. 2, W. 53, TBP.	1830 2, NP. 9, W. 22, TBP.
1815 }	

Total Results . . . . NP. 154  
W. 78  
A. 14  
TBP. 751

General Total . . . . . 997  
" Not considered" . . . . . 3

1000

It is under the conviction that the recital of a few more examples of the mode in which this curious system works, will contribute to shew, better than any thing I can say or urge against it in words, the necessity of such a reform as I shall hereafter have the honour of laying before my readers—that I proceed to quote them.

In 1800 several papers by Professor Bode, communicating important facts in astronomy were rejected. When Schroeter first imparted his discovery of the rotation of the planet Mercury, he met with the same fate which Bode had already experienced; yet not a single astronomer was present at the meeting of the deciding Committee! In that same year, Blumenbach was made to withdraw a paper on the *ornithorhynch*, while a paper of Everard Home on the same subject, was ordered to be printed at the same meeting. Professor Crell's various papers on boracic acid, were also rejected by the Committee. A paper on the male Rhinoceros, (the single production of an old member) was voted for publication in the following year committee, which contained not a single naturalist. Every memoir on Piazz's newly-discovered planet *Ceres*, by Baron de Zach, Mashelyne, and others, was rejected, not one astronomer, or mathematician, or really scientific man except Rennel, being present on those occasions. On the planet *Pallas*, several foreign astronomers communicated papers to the Royal Society—but these were not published—nor any thing allowed to be placed on record in the Transactions respecting this second interesting discovery of a planet, until Sir W. Herschel took up the subject.

In proportion as we get nearer to our own times, the importance of the papers rejected seems to be in the inverse ratio of the scientific character of the deciding members of the committee;—and subsequent events have proved that those members have as often decided wrong when they decided for the rejection of papers—as they would have decided right

had they not admitted some of the papers which appear now in the Transactions, but which are fit only for insertion in magazines and other periodical publications. Could a committee, containing only one physiologist, have judged rightly in rejecting a paper on the relation between the sanguiferous and nervous system by one of the most industrious physiologists in England? Could they have been right in voting, without the assistance of a single anatomist or natural historian, a paper not to be printed which was written by an anatomist to whom one of the royal medals has since been awarded, and entitled "on the proportions and measurements of the head, and varieties in the form of the bones of the cranium and face? When a memoir entitled "A new method of calculating the value of life annuities," read before the Royal Society, was rejected, there were only three members out of ten who could be judges of the matter under consideration. The intelligent author of the work on which I have commented at length in these pages may well complain that his "problems relating to games of chances" had not met with the consideration it deserved. Well may the two last-mentioned scientific "fellows" complain of a system which could work such important results, and well may they muster strong in the rank of its most strenuous opponents. What grounds could the committee of papers have gone upon, when, with an insufficient number of competent judges present, they decided on rejecting the memoir of the Assistant Professor at the Veterinary College, in which he announced his newly-discovered method of radically curing chronic lameness in the horse—and at another period, in ordering to be "deposited in the Archives" of the Society, a paper on the composition, nature, and use of certain disinfecting liquids, by the author of three other memoirs published in the Phil. Transactions? Grounds they had none, for no fact has been more triumphantly established than the discovery contained in the first paper; while the second



Of all the Papers that have been read before the Royal Society on which the Papers were written, and the Nations with the letter A (accepted), and those that have not

<i>YEARS of the 19th Century.</i>	<i>Higher Mathematics.</i>	<i>Algebra.</i>	<i>Geometry &amp; Geodesy.</i>	<i>Hydrodynamica.</i>	<i>Astronomy.</i>	<i>TOTAL Papers read, on Subjects collec- tively, in each biennial Period.</i>
1801 } 1802 }	2A	1A	2A 1R		5A 15	of which 25 R.
1803 } 1804 }					6A 3	of which 10 R.
1805 } 1806 }	4A 1R	1A	2R		5A 3	of which 14 R.
1807 } 1808 }	1A		2A	1A	5A 2	of which 10 R.
1809 } 1810 }	2A 1R			1A 3R	2A 1	of which 14 R.
1811 } 1812 }	1A 2R		2A 1R		5A	of which 15 R.
1813 } 1814 }	3A				11A	of which 7 R.
1815 } 1816 }	5A	1A		3A 2R	3A	of which 18 R.
1817 } 1818 }	4A 3R	1A			10A	of which 20 R.
1819 } 1820 }	4A 3R			1A	2A	of which 20 R.
1821 } 1822 }		1R	1A		7A 2	of which 14 R.
1823 } 1824 }	1R			1A	15A 2	of which 17 R.
1825 } 1826 }	3A		1A	2A	6A 5	of which 20 R.
1827 } 1828 }	1A			1A	11A 1	of which 18 R.
1829 } 1830 }	1A 1R		2A 1R	1R	2A 1	of which 22 R.
TOTAL of Papers in each Branch for 30 Years.	31A 12R T. 43.	4A 1R T. 5.	10A 5R T. 15.	10A 6R T. 16.	95A 35 T. 130.	GENERAL TOTAL. 2A } ..... 976

Average N

The Numbers in a former Table for 31 years, including were

paper alluded to has since been commended by a much abler chemist than any of those who judged in the committee, viz. the Assistant Professor of Chemistry at the Royal Institution. I repeat, therefore, grounds the committee had none; but there were motives. ....

But enough of this ungrateful subject. Proceed we now to inquire, analytically, into the claims which the Royal Society may be supposed to possess to the respect of the scientific men of Europe—by examining which branch of science seems to have been most cultivated under its auspices—the individual amount of contributions made by the fellows to each of the branches—and the number of such contributions as have been deemed unworthy of a place in the volumes of the Royal Society in the respective classes of scientific investigation. All this will be seen at once in the annexed Table.

There is another point of view in which the Royal Society must be considered, while we are on the subject of its usefulness and activity in promoting or encouraging science, and that is, the power it possesses of awarding certain medals to those scientific men, whether English or foreign, who by their labours have distinguished themselves most, in the course of the year preceding that on which the award is made. Besides this power, the Royal Society has also the means of encouraging, in their pursuits, those who cultivate natural philosophy—and animal physiology—or who apply themselves to the consideration and study of those singular and mysterious questions, “light and heat”; by affording to the two first an opportunity of publishing to the scientific world their discoveries, by lectures read before the Society at large, which are afterwards rewarded by pecuniary acknowledgments—and by bestowing on those who have written on the last mentioned subject specific medals founded by one of the Fellows.

Of the Medals within the gift of the Royal Society two are of ancient and two of recent foundation. The former are, 1st, the Copley medal, founded on the donation of Sir Godfrey Copley, who distinctly ordained that a gold medal, of the value of as much money as the interest of one hundred pounds sterling would produce, should be given to the person who shall have undertaken and published the most important investigation upon any subject of natural history during the year; and, secondly, the Rumford medal, or *medals*, a much more splendid gift made to science, by one whose name is recommended by his own scientific merits, and is known also by the circumstance of his marrying the relict of the great Lavoisier. Count Rumford's donation of one thousand pounds in the three per cents. is so settled, that the accumulated interest of that sum during two years, amounting to sixty pounds sterling, is to be presented, once in every second year, to the author of the most important discovery or useful improvement made and published, by printing or otherwise, in any part of Europe during the two preceding years, "on Light and Heat." The sum in question is to be given in two medals, struck in the same die, the one of gold, the other of silver.

The medals more recently founded are those which, by a spontaneous act of the late revered monarch, George IV. were placed at the disposal of the president and council of the Royal Society. They are two in number, each of the value of fifty guineas—and they are, individually, termed binary medals, because, like the Rumford medal, each consists of a silver and gold medal struck in the same die—an arrangement which enables the successful candidate, to whom the medals are awarded, to convert the more precious medal into money, while he preserves the silver one in commemoration of his success. The King left it to the president and council of the Royal Society to settle the particular rules under which the



award of those honorary premiums should be made; but he himself expressed the intention of the award, which was that of exciting competition among men of science, in promoting the object for which the Royal Society was instituted. His Majesty did not limit the award to his own subjects, but left it open for the council, who availed themselves of such a privilege, to embrace in their future deliberations the consideration of the claims of every author, no matter of what nation. It was afterwards ruled, that the medals should be bestowed on the author or authors of the most important discoveries, or series of investigations, completed and made known to the Royal Society in the year preceding the day on which the award was made.

With regard to the Lectures to be read before the Society—their annual number is three, and they are severally intitled the Croonian lecture—the Bakerian lecture—and the Fairchild lecture, or sermon, from the circumstance of its being delivered in some church.

The first was founded on the donation of one-fifth of the clear rent of a certain estate (producing to the Society £3. per annum) left by the relict of Dr. Croone. The subject of the lecture is fixed, and must refer to the nature and property of local motion.

The second was founded on the donation of Henry Baker, a worthy citizen of London, fond of natural history and experimental philosophy, who bequeathed the interest of one hundred pounds, to be applied as an acknowledgment for an oration or discourse, spoken or read yearly by one of the Fellows of the Society, on such part of natural history or experimental philosophy as the president and council shall appoint.

The third was founded by Mr. Fairchild, by whom it was appointed that the interest of twenty-five pounds, with other monies raised by subscription, now amounting to £100. three per cent. South Sea Annuities, should be applied as an acknow-

ledgment for an annual sermon, or lecture; on a subject of natural knowledge.

In order to enable the reader to judge how far these medals and lectures have been made instrumental, by the president and council of the Royal Society, in promoting science; I have concentrated, in tabular forms, the awards made of the former, with the motives for the award, since the beginning of the present century; and the names of the lecturers appointed with regard to the second, adding the title of the lectures they read.

*Tables of the Awards of Medals in the Gift of the Royal Society—and of the Lectures appointed to be read by Fellows of the Royal Society, since the beginning of the present Century, distinguishing not only the names of the persons who either received the Medals, or read the Lectures before the Society, but also the subject of their Papers and Lectures.*

TABLE I.—MEDALS.

YEARS since the conclu- sion of the last century.	COPLEYAN MEDAL. Founded A. D. 1730. Annual, and of the ordi- nary value of £5.	RUMFORDIAN MEDAL. Found. A. D. 1796. Biennial, and of the value of £60.	ROYAL MEDALS Founded, A. D. 1825. Two annual, and of the value of 50 gui- neas each.
1800	HOWARD. Discovery of Fulminating Mercury.		
1801	No award.		
1802	Dr. WOLLASTON. For his various Papers in the Philosophical Transactions.	RUMFORD, the founder. For his Discoveries on Heat and Light.	
1803	CHENEVIX. General communications on Chemistry.		
1804	TENNANT. Several communications on Chemistry, and the discovery of two new metals.		

- 1805 H. DAVY. Various communications in the Philosophical Transactions.
- 1806 A. KNIGHT. Various labours on Vegetation.
- 1807 EVERARD HOME. Various Papers on Physiology and Anatomy.
- 1808 Dr. HENRY (not a fellow then). Several Contributions to the Philosophical Transactions. MURDOCK. Employment of Gas from Coal, for the purpose of illumination.
- 1809 E. TROUGHTON. Method of dividing Astronomical Instruments.
- 1810 MALUS. New Properties of reflected Light.
- 1811 BRODIE. Paper on the influence of the Brain, on the action of the Heart.
- 1812
- 1813 BRANDE. Experiments on the alcohol of fermented Liquors.
- 1814 IVORY. Mathematical Papers. Dr. WELLS. For his Essay on Dew.
- 1815 BREWSTER. Papers on the polarization of light.
- 1816 H. DAVY. Papers on Combustion and Flame.
- 1817 KATER. Determination of an invariable standard of invariable measure.
- 1818 SEPPINGS. For improvements in the construction of Vessels of War. BREWSTER. Papers and Experiments on polarized Light.
- 1819
- 1820 OERSTED, of Denmark. Important Discoveries on electro magnetism.

## 1821 Two Medals.

J. F. W. HERSCHEL. For his Papers on pure Mathematics.

CAPT. SABINE. For his Observations on magnetism, and on the pendulum in the Arctic regions.

1822 BUCKLAND. Discovery of fossil bones in the cave at Kirkdale.

1823 POND. Various Communications to the Royal Society.

1824 BRINKLEY. For his Astronomical Papers in the Philosophical Transactions.

## 1825 Two Medals.

ARAGO. Experiments, electro-magnetic, on different metals.

BARLOW. For his Papers generally, and recent experiments on electro-magnetism.

1826 SOUTH. For Observations on 458 double and triple stars.

First Medal. DALTON For his Development of the chemical theory of definite proportions.

Second Medal. IVORY Papers on the Laws regulating the form of the Planets, &c.

## 1827 Two Medals.

PROUT. Ultimate composition of alimentary substance.

FOSTER. Magnetic Observations in the Arctic regions.

FRESNEL. Development of the undulatory theory applied to polarized light.

First Medal. SIR H. DAVY. For all his scientific discoveries. Second Medal. STRUVÉ of Dorpat, for his catalogue of double Stars.

1828

First Medal. ENCKE, of Berlin, for his researches and calculations respecting the Comet which bears his name.

Second Medal. WOLLASTON, for his process of rendering platinum malleable.

1829	No Award.	No award.	First Medal. CHARLES BELL. Papers on the nervous system. Second Medal. MITSCHERLICH of Berlin, Discoveries respecting the crystalline formations of bodies.
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TABLE II.—LECTURES.

<i>Years since the beginning of the present century.</i>	<i>CROONIAN LECTURE. Instituted, A. D. 1738.</i>	<i>BAKERIAN LECTURE. Instituted, A. D. 1774.</i>
1801	E. HOME. On the irritability of the nerves.	Dr. YOUNG. On the mechanism of the eye.
1802	E. HOME. On the power of the eye to adjust itself to different distances when deprived of the crystalline lens.	Dr. YOUNG. On the theory of light and colours.
1803		Dr. WOLLASTON. On the quantity of horizontal refraction, with a method of measuring the dip at sea.
1804		Dr. YOUNG. Experiments and calculations respecting physical optics.
1805	A. CARLISLE. On muscular motion.	
1806	A. CARLISLE. On the arrangement and mechanical action of the muscles in fishes.	Dr. WOLLASTON. On the force of percussion.
1807		H. DAVY. On some chemical agencies of electricity.
1808		H. DAVY. On the decomposition of the fixed alkalies, &c.
1809	Dr. YOUNG. On the functions of the heart and arteries.	H. DAVY. Confirmations of his discoveries founded on electrical analysis and the foundation of a new chemical theory.

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- 1810 Dr. WOLLASTON. 1st, on the duration of voluntary motion. 2d, on the origin of sea-sickness. 3d, on the advantage of gestation to promote health. H. DAVY. On some new electro-chemical researches.
- 1811 BRODIE. Researches respecting the influence of the brain on the action of the heart and the generation of animal heat. H. DAVY. On some combinations of oxymuriatic acid gas, and oxygen, &c.
- 1812
- 1813 Dr. WOLLASTON. On the elementary particles of certain crystals.
- 1814 BRANDE. On some new electro-chemical phenomena.
- 1815
- 1816
- 1817
- 1818 E. HOME. On the changes which blood undergoes in the act of coagulation.
- 1819 E. HOME. On the conversion of pus into granulation or new flesh.
- 1820 E. HOME. A further investigation of the component parts of the blood. BRANDE. On the composition and analysis of the inflammable gaseous compound from the distillation of coal-oil.
- 1821 E. HOME. Microscopic observations on the brain and nerves—the discovery of valves in certain vessels—and on the structure of the spleen. KATER. On the best kind of steel for a compass needle.
- 1822 E. HOME. On the structure of the eye. Capt. SABINE. On the dip of the magnetic needle in London.
- 1823 BAUER. Microscopical observations on the muscular motion of the *vitro tritici*.
- 1824 E. HOME. On the internal structure of the human brain microscopically examined. HERSCHEL. On certain motion produced in fluid conductors when transmitting electrical currents.

- 1825 E. HOME. The existence of nerves in the placenta.
- 1826 E. HOME. Structure of muscular fibre from which are derived its elongation and contraction. *fractism*. Sir H. DAVY. Relation of electrical and chemical changes.
- 1827 E. HOME. Propagation of the oyster.
- 1828
- 1829

With respect to the Fairchild Lecture or Sermon, I have not been able to discover any trace or record which could be of interest, or prove satisfactory to my readers. Mr. Babbage asserts that, for five years, from 1800 to 1804, Mr. Ascough received the trifling sum arising from the interest of £100. which has been as regularly given since that time, and for the space of 26 years to the Rev. Mr. Ellis. But whether this or the former gentleman have complied annually with the intention of the founder in delivering a sermon on some subject of natural knowledge or not, Mr. Babbage does not state in his book. It is impossible however not to agree with him—that the lecturer or preacher's name, when once appointed by the president, should be published to the society—and that the church in which the lecture or sermon is to be read should be mentioned. A better plan would be to invite clergymen to compose such a lecture—and provided the subject chosen be one of adequate interest, skilfully and eloquently treated—the fellows might be expected to attend—and the lecturer to acquire character and reputation. The intention of the founder would thereby be better fulfilled.

Much—very much offers itself for observation on perusing the two tables which I have just inserted. To ensure their accuracy I have taken as much pains as the documents on which I could lay my hand would permit. But the sources of information are scanty, scattered, and defective, owing to

many irregularities in the mode of conveying to the readers of the Transactions that information on these subjects which the statutes require, and the imperfect manner in which Registers and Books of Minutes used to be kept. Thus, for instance, while we have in two successive volumes of the Phil. Transactions the official announcement of a single award of the Rumford medal to Sir H. Davy for his paper on Combustion and Flame—we miss in the volume for 1826, all kind of information respecting the first award of the two medals on the Royal foundation! Nay, more, in no part of the printed Records of the Royal Society does the noble and patriotic gift of the late King—the foundation of the two medals—of 50 guineas each—appear registered! So that future historians will be left to guess that such a foundation has ever taken place; or they will be compelled to look for information on that point from a writer who has shewn no great respect for this scientific body.

Looking to the successive adjudications of the medals—the Copleyan—the Rumfordian—and the Royal—I cannot agree with Mr. Babbage in thinking that they display want of judgment or partiality.\* I find not a single name among those contained in Table I. who has not richly deserved the prize awarded to it. Nor is there, in them all, such a *prima facie* appearance of affiliation—nepotism—or reciprocal caressing—which would lead me to believe the problematical cases put by Mr. Babbage at all applicable.

This author states that a medal was given to A at a peculiarly inappropriate time, *because he had not had one before*—that a medal was afterwards given to B, in order to *destroy the impression which the award of the medal to A had made on the public the preceding year*; and lastly, that a medal was given to C, *because it was supposed that C had been ill used*. I profess not to have ever been behind the scenes, and therefore would not, at any rate, attempt to con-

\* Page 128 and 131 of Mr. Babbage's book.



tradict the Lucasian Professor, who seems to have been *dans les coulisses* to some purpose. But I cannot help thinking that his initiation into some half secrets have made him suspicious of the existence of many more; and, at all events, I would say—that in framing these accusations, he relies too much on the reality of what his imagination suggests to him touching the interest which he supposes the public to take in the award of any medal whatever.—He must be *innocent* of the London public, indeed, if he thinks that they care one atom about the adjudgment of any medals by the Council of the Royal Society. Unless, indeed, Mr. Babbage fancies that a dozen or two of the busy *scientificers* who prowl about Somerset House, and have scent of every thing that goes on there—and who at the present critical conjuncture have been set up by a small band, as the *working* members (ah! ah!) of the society—are to be considered as the public of whom he speaks. In the first Table I do not find Mr. Babbage's name—perhaps it ought to have found a place there. His labours, I am sure, entitle him to the distinction of Medallist. But in its stead we have names which can never be said to have been unjustly forced into the married state with either a Copleyan or a Rumfordian, or even a Royal medal; and as I find no link of relationship, and barely a tie of friendship between any one of them, I am fairly entitled to form my own opinion as to the general fairness and impartiality which has been shewn in the distribution of the medals contrary to the insinuations thrown out by Mr. Babbage and the Chevalier Astronomer, that the principle which has directed that distribution has been the northern one of *Pawh me—and I'll pawh thee*. Who can object to Howard, Wollaston, Chenevix, Tennant, Davy, Knight, Home, Henry, Troughton, Brodie, Rumford, Brande, Ivory, Brewster, Kater, Seppings, Herschel, Buckland, Pond, Brinkley, Barlow, Prout, Dalton, and Chas. Bell?—besides the foreign names of Malus, Arago, Fresnel,

Struve, Encke, and Mitscherlich? Are not the former names dear to English science? Do they not gainsay the assertion that "science is declining in England? . . . . Whether the rules by which the adjudication of those medals is to be guided be the best or the most judicious is another question—and still less am I inclined to agree with those who contend that the mode of deciding or the reasons for assigning are the best calculated to promote science. But that the decisions, *quo ad homines*, have been uniformly just, I am prepared to assert, except in one instance, and that instance has also been condemned by Mr. Babbage—the adjudication of a Royal medal to a philosopher who had already enriched himself by the very discovery which the council thought proper thus to reward, and of which death alone seems to have compelled the promulgation, was truly unjust.—By keeping that discovery to himself for many years—like a medical empiric, who dares not to purchase a patent lest he should be compelled to give a specification of his remedy—Dr. Wollaston retarded the course of investigation and discovery respecting one of the most useful metals in nature. I say retarded advisedly; for what chemist or metallurgist would have ventured to undertake any series of experiments on the same subject, respecting which it was known, that every difficulty had already been conquered by Wollaston, who might at any moment divulge his secret to the world, and thus thwart at once the pretensions of any other successful experimentalist?

On the whole, I would repeat, that the Royal Society of London, with all its sins on its head, is not chargeable of having disgraced science by the awards of its medals since the beginning of the present century.

In respect to the lectures the thing is different—very different indeed. First, because the system is bad—secondly, because a bad system has been made worse by working it badly—and thirdly, because the results of a bad system, so

badly worked, have been, with a very few exceptions, equally bad. If I can prove these positions, I shall have proved that the Royal Society, in its present constituted state, and, with reference to one of the means which it possesses of encouraging science, by the appointment of remunerated lecturers, has failed in doing its duty, and consequently requires correction.

In the first place, the system which limits the composition of a lecture to one object or class of objects alone, and that too for an indefinite number of years, during which the same subjects is to be treated, must be bad *a priori*. It may be that the subject is one susceptible of being and has been exhausted; of what use, then, would any farther attempt at investigation be? Or the subject may be of a nature admitting of no demonstration, or unimportant, if demonstrable. In these two latter cases again, time, paper, and the real interest of science must be wasted in the successive annual attempts to do that which is either impossible—or of no earthly use when effected. Thus it is with the Croonian lecture. Its subject must of necessity be “the nature and property of local motion”; by which, I suppose, is meant loco-motion. Now, although this subject has been strained in every possible way, and has been treated by many writers in these Transactions, and by as many more whose labours never found their way in the Transactions, such as those of the late Mr. J. Pearson—what result, I would ask of my readers, has flown from those exertions? Look at the titles of the said lectures in my second table, of which not fewer than seventeen are recorded—and decide (first) whether those lectures which are strictly within the meaning of the foundation have added much to what was already known on the subject; and (2dly) whether those which convey any new information are in the least connected with the question of loco-motion or local-motion.—What, for example, has the propa-

gation of an oyster to do with loco-motion? or the existence of nerves in the placenta, or Wollaston's sea-sickness? The system, therefore, is bad, and must be changed. It has been virtually changed by some of the lecturers, with the assent of the council and, therefore, the sooner the change takes place altogether and is announced officially, the better.

In regard to the other lecture, namely, the Bakerian, the absurdity of the system of limitation is not so much felt; because the subjects embraced by the meaning of the founder are fortunately numerous, and most of them full of interest and importance. Hence we have, in the lectures registered in the second table, a greater variety of topics discussed—some of them very ably treated and others conveying absolute discoveries. Still, even here we see the badness of the system; for there is since the beginning of the present century, no mention of any lecture on subjects of natural history which are included in the words of Mr. Baker's bequest; and we have lectures on subjects not strictly appertaining to what is called experimental philosophy—at least, according to the more usual acceptation of the word. The description, for example, (valuable as that lecture is from the manner in which it is executed) of the process of making glass, cannot be considered in any other light than as belonging to manufactures—although the making of that particular glass be for optical purposes. All Sir H. Davy's highly important Bakerian lectures are of a mixed kind—the one by Professor Brande, on Coal Gas, has nothing to do with experimental philosophy properly speaking.

I have said, in the second place, that a bad system has been made worse by working it badly. By this I mean that the encouragement of science, paltry as that is which the assigning of these lectures is intended to produce, has been unjustly limited to a very few individuals, who happen to be favourites at head quarters; and has followed, instead of pre-

ceding the object, which it is intended to promote—that is to say—that favourite persons who had written papers for the Royal Society, which would, at all events, have found their way into the volumes of the Transactions, without any stimulus of Bakerian or Croonian money—had that money assigned to them for such papers, which were afterwards entitled Bakerian or Croonian lectures. This I know to have been the case in more than one instance—and hence the absurdity of the conclusions to which the council have often come in this matter, whenever they styled and rewarded, as Bakerian or Croonian lectures, papers, the subject of which was not in accordance with the defined intention of those lectures. Out of 17 Croonian lectures since 1801, not fewer than 10 were delivered by Sir E. Home, who would have communicated to the world his valuable labours at all events.

In the third place, I asserted that the results of so bad a system have been, with a few exceptions, equally bad. The truth of this position is illustrated by what I have alleged under the first and second of my propositions. To which I may add, as general bad results, first, the little attention paid by the fellows at large to these lectures, or the intention of their founders, as means for promoting science; secondly, the injustice done to a vast number of able and skilful men of science in not assigning more impartially, to each in their turn, the duty of delivering such lectures—and, thirdly, the failure of the well-meant intention of the founders of those lectures—that of encouraging the learned, of all classes and degrees, in the pursuit of certain curious, and in many respects interesting, branches of scientific investigation.

There remains but one more subject to be touched upon concerning the Royal Society, in order to complete the picture I have undertaken, of its present real condition and structure, with a view to establish good grounds for the reform which I shall have to propose in the second section of

my "Expostulation." The subject I allude to is that of the finances of the society.

So imperfectly is the Society informed by its treasurers, acting under the direction of ill-digested statutes, of the state of its revenue and expenditure at each anniversary meeting; that with difficulty can a fellow form an approximated idea of those two important points. Nor is it possible for any member to obtain a positive and authenticated return of the different items of such expenditure and of each separate source of revenue. The treasurer's strong box and his ledger are hermetically sealed, like Aladdin's cave, against every fellow not of the council, and no "open sessame" can avail.

Collating, however, the reports of the treasurers as they appear on the minutes of the general meetings of the Society, —and adopting the numbers mentioned in those reports, in the summary manner in which they appear in those documents—I have drawn up the two following columns of receipts and expenses of the Royal Society for the last 30 years, beginning with the year 1800.

<i>Receipts.</i>				<i>Expenditure.</i>			
£	s.	d.		£	s.	d.	
1800.....	1824	18	7	1800.....	1535	18	6
1801.....	2336	18	10	1801.....	2128	18	10
1802.....	1754	3	0	1802.....	1601	7	1
1803.....	2089	4	9	1803.....	1680	17	8
1804.....	1799	9	4	1804.....	1584	17	8
1805.....	2052	3	4	1805.....	1392	6	0
1806.....	2342	0	4	1806.....	2356	3	9
1807.....	1707	0	10	1807.....	1482	15	7
1808.....	1789	3	5	1808.....	1514	14	7
1809.....	2094	3	0	1809.....	1705	6	6
1810.....	2200	10	2	1810.....	1415	10	10
1811.....	2369	14	2	1811.....	1621	14	1
1812.....	2578	6	3	1812.....	1794	19	6

	£	s.	d.		£	s.	d.
1813.....	2342	7	3	1813.....	1726	9	6
1814.....	2540	18	8	1814.....	1996	16	2
1815.....	2300	12	9	1815.....	1764	17	7
1816.....	2895	15	6	1816.....	1949	6	3
1817.....	2939	19	0	1817.....	1904	13	11
1818.....	2605	17	0	1818.....	2061	0	4
1819.....	4117	14	8	1819.....	2358	10	8
1820.....	4407	13	8	1820.....	4117	1	5*
1821.....	3189	14	3	1821.....	2891	4	3
1822.....	2885	13	0	1822.....	2781	0	8
1823.....	2535	18	8	1823.....	2243	18	9
1824.....	3085	19	3	1824.....	1698	4	8
1825.....	3645	0	11	1825.....	3027	6	10
1826.....	2954	18	4	1826.....	2285	4	2
1827.....	3174	7	3	1827.....	2319	7	5
1828.....	4433	12	5	1828.....	3141	7	11
1829.....	4943	15	8	1829.....	4647	0	0
30 years	£.81937	15	0	30 years	£.64799	7	11

\* This year a sum of 2000*l.* was laid out in the purchase of reduced 3 per cent annuities, and on the following year a further sum of 570*l.* 7*s.* 4*d.* was similarly laid out.

In the above column of receipts the gross sums are entered, including the balance left in the treasurer's hand from the preceding year. Hence, when compared with the column of expenditure, it would appear as if a balance of 17,138*l.* 7*s.* 1*d.* remained in favour of the Society; whereas, in reality I believe, a very trifling balance remains in the hands of that officer available to the Society, out of the prodigious sum of nearly 65 thousand pounds expended in the course of 30 years.

And for what purposes has such a large sum of money been expended by the Society? What control has the Society exercised over such an expenditure during that

time? To the latter *question*, the answer is brief—none whatever. To the former question, the reply is not so easy. If to publish hot-pressed pages, and numerous unnecessarily splendid plates be a *purpose*—then there is *one* answer to the question of expenditure. If to publish the president's speeches, at a cost three times as large as need be, with an intention of selling the copies afterwards to the fellows, who care not to buy them, be a purpose—then there is *another* answer to the question of expenditure. If to re-gild frames, varnish portraits, furbish up old furniture, brush up the mace, recover velvet-cushions, provide a three-cornered hat for the president, be a purpose—then there is a *third* answer to the question of expenditure. In fine, if to pay upwards of 400*l.* per annum to three secretaries (one of which offices, though important, has been made a complete sinecure for the last 12 or 15 years,) one assistant secretary, and a clerk, with a porter and housekeeper, be a purpose—then there is a *fourth* answer to the question of expenditure. But, in good truth, we are left to guess at the real purposes of so large an expenditure of money, which would have gone nigh to pay the salaries of 60 members of the Institute of France for the same period of time, at the rate of twelve hundred francs per annum—not including the *jetons*, or fees, which those academicians receive at each meeting of their body. How different, however, are the results to science in the country in which similar large sums have been applied to support the Institute?—and how proportionately large a return to science has resulted from ~~the~~ men so remunerated?

For the honour of the Society's officers (for in good troth the Society itself has no control over the matter) it is to be hoped that the 20th and the 28th, the 30th and 34th charges contained in the bill of impeachment against the President and Councils of the Royal Society, published by Sir James South, will be explained satisfactorily—or shewn to rest on



some mistaken notion of the worthy knight.—Else we should have, collectively, another and very comprehensive answer to the proposed question of “to what purpose is so large an expenditure incurred.” The first of those four charges implies that hundreds of pounds of the Society’s money have been converted into “white bait, rose water, and Sauterne, (I should say bad Barsac,) by the said President and Council. The second, third, and fourth of those charges imply that thousands of the public money have been spent by the same authorities in some floundering experiments for the manufacturing of glass for optical purposes; but whether this *public* money be the Society’s money or otherwise, the accuser sayeth not. The last of those charges, avers that a sum of £2600. of the Society’s money (for what object it is not stated) was paid away without investigation last year by the accused President and Councils: *Nous verrons*.

The curious calculation by which the Lucasian professor has shewn, in his book, how a very large portion of the total sum of expenditure mentioned in this Expostulation has been fooled away—deserves consideration; the more so as the plates which have cost the heavy sums mentioned by Mr. Babbage, were afterwards gratuitously lent to the author of the papers for which the plates were engraved at the expence of the Royal Society—that he might collect them in five volumes and publish them as the principal part of a large work on comparative anatomy. Mr. Babbage’s statement is as follows:

“Previous to 1810, there are upwards of seventy plates to papers of Sir E. Home’s; in many of these, which I have purposely separated, the workmanship is not so minute as in the succeeding ones. Since 1810 there have occurred 157 plates attached to papers of the same author, many of these have cost from twelve to twenty guineas each plate; but I

shall take five pounds as the average cost of the first portion, and twelve as that of the latter. This would produce

$$70 \times 5 = 350$$

$$187 \times 12 = 2244$$

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Total 2594 expended in plates *only* on one branch of science and for one person?"

So much for the finances—and last point of consideration on the present *real* state of the Royal Society.

## SECOND SECTION.

### *Embracing the serious Consideration of the Reform of the Royal Society.*

1<sup>st</sup> Topic. The most preferable form to be given to the Society—its ordinary meetings—and the mode of conducting business.

The present form of the Royal Society is objectionable, because it is in many respects inefficient of purpose. Its government is a species of republican union, without due representation of all the interests, headed by a doge and a council of TEN,\* though the council in reality consists of twenty-one members including the president. It is a truly Venetian oligarchy, the administration of which rests upon secrecy, and the absolute separation of the governed from the governors, whose proceedings are *never* to be made matter for discussion. The President, or Head, is annually elected

\* It is somewhat curious, that in a very few instances only, have I been able to discover more than the above number of trusty and well-beloved councillors in attendance at any of the meetings of the council out of the whole number of twenty-one—and that, of this number, two-thirds were always the well-known favorites of the President.

and re-eligible *ad perpetuitatem*. The general council of twenty-one is annually purged of *ten* members—and these cast-off members are re-eligible after the lapse of one year. Out of the Council the President selects and names his Deputies or Vice-Presidents. This power of the President was limited by the “*charta prima*” to one Deputy, “*liceat et licebit Præsidi unum de Concilio fore et esse Deputatum ejusdem Præsidis nominare et appunctare.*” But the “*charta tertia*” has extended that power indefinitely from one to more Vice-Presidents or Deputies, “*cui quidem Præsidi pro tempore existente duos vel plures dēprædicō concilio ejus Deputatos facere et constituere potestatem et auctoritatem concedimus.*” These Vice-Presidents share yearly the fate of him who appoints them, and vacate their seats—being, however, like their principal, re-eligible by him, if himself re-elected. The two Secretaries who are stipendiary officers, and the Treasurer are also, nominally elected by the Society, and must be taken out of the list of members of the Council for the current year. In later years a foreign Secretary was deemed necessary in a society which ought (but does not) keep up an active correspondence with foreign scientific men and academies. From the chronological table of the Presidents and officers of the Society, since its foundation, which I have inserted in this section, it will be seen that the appointment of foreign Secretary was not contemplated by the charter. It takes place in virtue of a resolution of the Council, and rests entirely in the hands of that body and its President. A small pecuniary acknowledgment is made annually to this officer, whose duties are defined by the fourth section of chapter ninth of the statutes. The two Secretaries have generally been understood to share between themselves the business of the Society, so that the one reads all papers communicated to the Society, as well as the correspondence of the learned, and other persons in England

and abroad, together with the list of presents, &c.; while the other is to draw up and read the minutes of the ordinary, as well as general meetings of the Society, and note the admission of candidates, and the election of fellows. The mode in which the minutes are drawn up is various. Ostensibly, all papers read which relate to mathematical and physical sciences are minuted (that is say, an abstract made of them) by the reading Secretary—and those papers which relate to natural science are condensed and minuted by the Secretary, whose duty it is to keep the book of minutes. But this process is frequently deviated from—and the author of the paper, himself, has been at times requested to send in a minute of his own performance. Now, as it has happened that some of the minutes have smacked not a little of a laudatory style, which has biassed the auditors who were not present at the reading of the original paper—it is manifest that the last-described method of registering the minutes, must lead to imperfect and unjust conclusions, and prevent members from forming with correctness their opinion of the subsequent conduct of the “committee of papers,” in rejecting or otherwise disposing of the communications intended for the Philosophical Transactions.

Nothing can be more monotonous or soporiferous to the fellows assembled, than the ever-revolving, unchangeable mode of proceedings at the weekly ordinary meetings of the Society. The fellows having first watched the president and the two secretaries take their seats—the former covered, in token of the authority which belongs to the “*primus inter pares*”—and having heard the list of the visitors read who request to be admitted for the evening into the hall of the Society—wait patiently until the latter have rushed in from the adjoining antichamber, and settled themselves respectively on either side of the hall on parallel cross benches—and then

“lend a willing ear” to what is to follow. One of the secretaries next proceeds to read the minutes of the last meeting, which consist in repeating, in fewer words, every thing that was read by his colleague on a former evening. This done, the president nods to the secretary on his left hand, who, in his turn, begins with the list of presents, and the reading of the certificates for election of all such candidates for the fellowship who might, at the time, be lying before the Society. The forms will it, that the president should put the question to the Society, whether it be their pleasure that such certificates be either received in the first instance, or balloted for when the proper time is come; but the Society has never ventured, except in one remarkable instance, to throw any objection in the way of the proceedings, which accordingly begin at once. Another look from the same secretary to the president, and a nod from the latter to the secretary, is the signal that the reading of a paper or communication to the Society is about to commence—and then begin also the various attitudes of the fellows and visitors present, indicative, at first, of the spirit with which they are prepared to receive the communication, the title of which has at once decided that question in their minds—and, a few minutes later, indicative of the balmy and sedative effect which the paper itself has had upon their senses. These attitudes, and the occasional deep nasal notes by which, at times, they are farther illustrated, are interrupted by the assistant secretary, who presents the balloting-box to the composed and quiescent fellow for his vote. The same interruption is given to the reading secretary, who, in the midst of a sentence often interesting, is made to suspend his office, and to lay down the manuscript; until the President has drawn out the nay and the yea drawer from the box—has exhibited the unoccupied green baize of the former, and that of the latter crowned with friendly balls—and, after having doffed the token of his au-

thority from his head, has proclaimed the name of the successful candidate. The secretary then resumes the reading of the paper, unless another and another certificate stand for ballot the same evening; in which case the same process, and the same interruption take place over and over again; dividing equally into as many sections the paper read to the Society, and into as many naps the duty which devolves, at these interesting meetings, on the members of the Society. At length, either the Somerset-House clock—or the more portable time chronicle of the chairman, gives a welcome warning that this tedious ceremony (I speak under correction) is about to end, and the meeting is dissolved—none of the fellows present having, of course, taken the least share in its proceedings. In this picture, we have at once the history of the Society's endeavours to improve natural knowledge in England. For when we add to it the publication to the world at large of some papers, so read—so interrupted—and so minuted, which takes place in the course of the same year; I have said all that can be said of its exertions, and there remains not another characteristic feature which I can communicate to my readers.

Now all this demands reform—and, fortunately, such a reform is neither impossible, nor rendered impracticable by the existing charters. Still more fortunate is it, that by the power given to the president and council of making and repealing laws—the necessity of the more cumbrous mode of proceeding, attendant on an alteration of those charters with the consent of a general meeting, is avoided.

The ordinary meetings of the Society are regulated by Chap. XI. of the Statutes—and for the making of a new statute or the repealing of one actually in existence, it is only required that the draught of such a new statute or law, and the question of a repeal of any old statute, should be propounded and voted for consideration at one meeting of the council—and

again discussed, and finally voted for admission or rejection, at a second meeting of the council.

The reforms then to be suggested would require only to be discussed in the council, and might be adopted, if found to be imperative and important, without great difficulty ; and I would take leave to add, that probably at no period of the history of the Royal Society, has there existed a more propitious moment for the adoption of wholesome changes in the form of the Society—the nature of its ordinary meetings—and mode of conducting business, than at the present crisis ;—when a new president and a renovated council, with probably new officers, are likely to exert themselves with the vigour also of new men in old places, for the purpose of restoring dignity, efficiency, and importance to the Society.

The form which the Society might with advantage adopt is that of classes—each to consist of a limited number of members. The manner in which the Royal Society has been supported throughout its existence has been by annual contributions—and certain sums paid in lieu of such contributions by the members. It has hence followed that, as the establishment became gradually more expensive, from a variety of causes which it is needless to examine in this place, the only mode left for the council to meet the growing expenses has been that of encouraging or overlooking the introduction into the Society of as many persons as were willing and able to pay those contributions, regardless often of the scientific considerations by which those admissions ought to be distinguished.

Granted, therefore, that a large number of fellows be requisite to ensure a large yearly income—and that no retrenchment in the present expenditure be deemed advisable : the total number of fellows might still be great and yet limited—say to six hundred. The financial part then would be secured by this arrangement. But in order to make it

consistent with science, this large number of fellows should be divided into scientific classes, each of them according to the nature of his scientific pursuits, known to the world, either through his publication, or a well-established character, as a scientific man who devotes his attention to one particular branch of science. But as, in so large a number of persons, it is impossible that every one should come under either of these denominations ; and, on the other hand, as many who do not come under either are nevertheless very friendly to science, and anxious to promote or patronize it in some way or other—a farther class, to comprehend all such fellows, should be established, entitled a Free Class, and in this the members might be so limited, as not to increase the totality of the Society beyond six hundred. All the fellows collectively would be entitled to the same privileges, and distinguishing honors and initials, as by the charter directed, in regard to the public ; and the distinction of classes would only be appreciated by the scientific world. We should then know at once through what claim any particular person has been admitted into the Royal Society, by looking at the class to which he belongs ; and ascertain the grounds upon which any candidate seeks to be admitted into a particular class of that Society—so as to verify them by personal inquiry. Science and pecuniary interest would thus be reconciled ; and the list of the Royal Society would exhibit what it never did before, a fair approximation to a real representation of the scientific public in England.

The titles of the classes into which the Society might be divided, should be adopted from the branches of science which seem to have been mostly cultivated in England, as evinced by the Analytical Table of the contents of the papers read before the Society since the beginning of the present century ; and according to the average number of papers read during that period in each branch, might the limited number of fellows to be admitted into each class be fixed.



The names of the classes might run thus :

- Class 1. Higher Mathematics,  
 — 2. Astronomy,  
 — 3. Mechanics and Hydrodynamics,  
 — 4. Experimental Philosophy,  
 — 5. Chemistry,  
 — 6. Natural History, Botany, and Vegetable Physiology,  
 — 7. Geology, Mineralogy, and Metallurgy,  
 — 8. Physical Geography, and Physical Statistics,  
 — 9. Medical Sciences,  
 — 10. Free Class,

and the relative number of fellows to be admitted into each class grounded on the calculations contained in the Analytical Table—would be as follows :

Class 1. Mathematics .....	20
— 2. Astronomy .....	30
— 3. Mechanics .....	40
— 4. Experimental Philosophy .....	70
— 5. Chemistry .....	70
— 6. Natural History, Botany, and Vegetable Physiology .....	60
— 7. Geology, Mineralogy, and Metallurgy ...	60
— 8. Physical Geography and Physical Sta- tistics .....	60
— 9. Medical Sciences .....	60
— 10. Free Class .....	130
	<hr/> Total 600

It ought, however, to be fully understood, that the mere circumstance of any person following a profession for emolument, which has an immediate or relative connexion with any branch of science—shall not entitle him to admission into the class corresponding to that branch;—but that he shall be

expected to have virtually contributed to the promotion of that branch of science. Else we should have all the College of Physicians and Surgeons (who by the bye as I have shewn elsewhere form more than the seventh of the whole Society) without having done, as it actually appears to be the case with most of those hitherto admitted, anything for science—all the Engineers by profession—and all the fellows of the Geological Society to boot, who call themselves geologists.

It will be seen, from the Analytic Table, that one branch of science has been entirely omitted. I mean Botany, in consequence of the total absence of any paper on that subject in the Philosophical Transactions during the period of thirty years. Still I have retained that branch in my classification; but, as it is likely that the communications on that subject will be few in number, as long as the Linnean Society absorbs that entire branch of science—I have added it to the class of Natural History, with another branch of Science of quite a modern creation, namely, Vegetable Physiology. If, however, the system of classes be adopted, every person who wishes to be admitted as a fellow, not only in the class of botany, but in every other class—for the science of which there exists a subordinate society—should be called upon to give proofs to the Society that he is a real working man in that science, by a written communication. The stigma cast on the last thirty volumes of the Transactions, of not containing a single word on pure Botany, and very few on Zoology, Geology, and Astronomy, would, thus, be soon wiped off from the history of science.

Such an arrangement would have the direct effect of increasing the interest of the ordinary meetings of the Society, by giving the tone of variety and of real business to its proceedings—for it would enable the President, or any of the fellows present on a specific motion, to refer a paper, after it had been read, to the class with which the subject of the paper is more immediately connected, assigning the reason

for such a reference, and desiring that class to make their report to the society. It would also afford to the Society an opportunity of having such reports from the different classes to be read by the member deputed to that effect by the class—and their reasons for that report, on the strength of which the meeting might decide by ballot whether the paper should appear in the Transactions.

In order to carry this into effect, each class should be allowed to meet in a committee of its members, as often as necessary, under the presidency of one or two of their own members, and assisted by another acting as Secretary. These committees should be open to all the fellows of the Society, but the voting upon the papers referred to particular classes, should only be permitted to the members of that class, who thereby would become a sort of guarantee to the Society at large, as well as to the author, that the paper had received the fullest consideration from “fellows” the best informed on the subject.

It would be desirable that the chairmen of committees in each class should be elected permanently, and not to be replaced except in cases of resignation or death—that they should be selected by the class among its most celebrated members; and thus, while an important and manifest improvement would be made in the manner of conducting the scientific business of the society; we shall have established, within itself, a fertile source of worthy emulation for exertion, which does not now exist in the Royal Society.

The nomination of the vice-presidents by the President would form a second source of emulation and guerdon for past services, particularly if such vice-presidents be taken from among members of unquestioned superiority in each class, to represent in the Society the interest of their respective classes. The vice-presidents should have a distinct place assigned to them at the meetings of the Society. The council

of administration, likewise, should be separately seated near the table—and lastly, the chairmen of committees ought equally to have seats set apart for them, that they may be within reach of the table, in case of questions being put to them, or reports being presented by them.

There are none of these simple arrangements and improvements in the way of conducting business in the Society that have not, more or less, the benefit of long experience in <sup>their</sup> ~~its~~ favour, both in England and abroad. The Institute of France has its classes and committees of classes. The Society of Arts in England has its classed committees—and both make reports on papers referred to them. There is not even the proposed arrangements of distinct stations in the hall of the Society during the ordinary meetings—or the reading of the reports by different reporters instead of by the secretary, (by which much of the monotony of the present meetings would be obviated,) that have not been acted upon both here and abroad by distinguished societies, which flourish under that system. I am sure that there is not a member of the Society of Arts, and I am myself of fifteen years standing in it, who will not agree with me in stating, that had that Society been constituted like the Royal Society, and the ordinary routine of its business consisted merely in the reading of a paper and minutes for the space of an hour; its existence would long ago have ceased; instead of which that Society has flourished under a very different system of proceeding—one which multiplies and varies the interest of its meeting, and affords to every member, each in his department, opportunities of working heartily for science.

But there is another and a very important alteration in the manner of conducting the business of the ordinary meetings of the Society, which the nature of the present times, and the wants of inquiring men demand on all hands—and which, fortunately for the Royal Society, may be adopted (or indeed re-

verted to, for it formerly was in force) without infringing the statutes. The alteration I allude to is the introduction of a rational, temperate, never controversial if possible, but chiefly practical discussion among the members present on the subject of the paper read, or any of its collateral branches—or on the reports made by committees, if the latter very desirable arrangement be adopted. That discussion, such as is here meant, was at one time an ordinary occurrence at the weekly meetings of the Society, is proved by the minutes of those meetings preserved in the Archives of the Society, wherein it is seen that the members present frequently entered into the consideration of the papers before them, and offered their individual observations on the subject of those papers, which observations are registered in the minutes of those times. That discussion is presupposed by the statutes to be a likely occurrence is fully proved by the language of those statutes, as I find them published in the edition of 1823.

In Chapter VII., which describes the duties of the president, it is stated, among other matters, that “his business shall be to preside in all the meetings, and *regulate all the debates of the Society;*” and further it is ordained, “that whensoever any question shall be desired to be put by any fellow at a meeting of the Society, and seconded by another, the president shall put the same, unless *upon debate* the sense of the meeting appear to be otherwise.” Nothing can be clearer. But we have still further evidence of this power of the Society to enter into discussion at its *ordinary* meetings in Chapter XI., wherein those meetings are described; for it is there stated thus, “when any fellow speaketh he shall address his speech to the president, and the rest shall be silent;” and again, “when two or more offer to speak together, the president shall determine which of them shall speak first.” What more, then, can be required that language has not, in the

clearest manner defined, to prove the affirmative of my proposition—that debate (an objectionable word to which I substitute the quieter one of discussion) is part and parcel of the business of the ordinary meetings of our Society? I hope, therefore, for the credit of the Society—for the sake of its declining interest, that we shall soon have a wholesome restoration of a wholesome practice—from which much may be expected in the way of reviving the expiring ardour of science, as at present evinced at our ordinary meetings. Nor is it merely discussion on the papers brought forward which ought to be encouraged, but the narrative of facts connected with science also—the description of experiments, or of new scientific or philosophic processes witnessed—and the relation of all other philosophical matters.

Notwithstanding all this array of evidence in support of the legitimacy and admissibility of debate and discussion at our ordinary meetings; such is the ignorance which prevails among a certain class of the “fellows” on the subject of the statutes, that one of them, who has since put himself in the ranks of the “noisy ones,” actually put a stop to the only discussion which was ever heard at an ordinary meeting, by stating that the *statutes forbade all such debates!*—and the president, equally unacquainted with the statutes, which it is his business to enforce, actually acquiesced in the opinion of the mistaken member! I know that those who are for silence, and care not to have their sweet repose disturbed, which generally follows the scientific dinners had at the Crown and Anchor just before the ordinary meetings of the Society, will attempt to prove, by one solitary expression to be found in another part of the statutes, that debate or discussion is in violation of those statutes; but that very expression, though of a negative kind, is confirmative of the position I maintain; for it provides that, in order not to waste time in unprofitable

debate, if a motion or question proposed to be balloted for by the Society shall be brought forward, the same shall be transcribed on paper, read by the secretary once, suspended in the room for one meeting, and put to the ballot at the next ordinary meeting of the Society—the said proposition being signed by six or more members. It is manifest, from this language, that the provision applies to vital questions to be passed into laws or resolutions only ; and not to the ordinary subjects of discussion, much less of such discussion on scientific subjects, and others connected with the Society, for which I contend, and in favour of which the statutes in this very chapter are still more explicit, inasmuch as it is stated—that the restrictive regulation above alluded to, of writing out any motion or proposition, and of waiting two meetings before it is discussed and balloted for, is “not to be construed to extend to the ordinary business of the Society, or to matters relative to elections.”

**2<sup>d</sup> Topic.** The necessary alterations required in the present statutes and bye-laws, with reference to the election of fellows—publication of papers—and the treasurer’s accounts.

We have seen how much may be done, and is to be effected, in the way of improving the present state of the Royal Society—not only without the necessity of a new charter, or any alteration in the existing statutes—but, on the contrary, by simply putting those statutes in actual force. What follows next in the way of reform—equally important for the welfare of the Society—and, indeed, vitally so—is of a nature which, I apprehend, may require the repeal or modification of certain existing statutes, and the enacting of new ones. The objects which demand reform are these.

1. The present mode of *making* fellows.
2. The manner of electing the officers.

3. The system pursued in the publication of the papers read before the Royal Society.
4. The mode of communicating the treasurer's accounts, or of imparting to the Society a knowledge of its funds, income, and expenditure.

With respect to the first of these points, the statutes have provided a certain form for the election and admission of fellows which I have purposely, and, I believe, justly termed the *making* of a "fellow"—for in good earnest nothing can be more absurd or preposterous than that, at each of its meetings, the Society should be entertained with the reading of the same form of certificate applicable to all sort of candidates, signed by a smaller or larger number of fellows, setting forth in a series of hacknied expressions the claims of the candidate, which claims are probably unknown to the rest of the Society, and with equal probability as little known to the larger part of those who signed the certificate.—The smallness of the number of fellows who are required to certify to the claims of the candidate, (three only) is a great encouragement to all sort of persons to become fellows. Such persons readily think that they can hang without inconvenience for the space of ten weeks with a few of their friends' appended to their feet; and that then the chance of coming into the Society at one of its meetings, when none of those who may be acquainted with their *real* merits are likely to be present, will be in their favour. This quick process of manufacturing fellows is, moreover, an interference with the short time allotted to the Society for transacting business, and from the circumstances of its weekly occurrence, and the indifference with which it is viewed, by those present, becomes almost farcical, and tends not to increase the respectability of an F.R.S. On this subject all the prudent and well-thinking members of the Society, whose judgment is worth any thing,



are perfectly agreed. They fully know that, thanks to such a system, the list of the fellows of the Society has not only increased to its present extravagant *club-like* number, but has decreased in respectability in proportion; and that, through the same system, persons have been admitted, and are likely to be admitted, at either of the two next, or any of the future meetings, whose claims are not only slender but problematical. Yet even persons like these are certain of three names to back their pretensions—and will often succeed in getting a member of the council (as stated quite correctly by Sir James South) to violate the freedom of election in distributing letters amongst the fellows to influence their votes—or they will procure a small body of men, most of them recently elected into the Society, and not a few of them, deprived of every scientific character, ready to join, in violation of the by-laws, in order to consider of the best mode of counteracting the conscientious votes of the majority of the fellows, when votes are likely to be against their protégé. It has indeed happened, that on some occasions such a small body of fellows has been found, who not only have conducted themselves as described above, but have ventured to print a report from themselves in favour of a particular candidate, which report, couched in language of defiance, they were permitted by a too good-natured president, to distribute at the very threshold of the Society's apartments on the evening of the appointed ballot of their protégé. In this way, and by a measure as objectionable as it was unprecedented, a number of individuals, headed by one, who, however eminent he might be considered in one of the branches of the Fine Arts, has no more pretension to science than have the few square inches of board on which he sits at the Society, have succeeded in influencing the votes of their co-fellows, and thereby violated the freedom of election.

Both Mr. Babbage and Sir James South have made some very pertinent remarks upon the singular facility with which any one may, even if resident in the country, by an order to his agent in London, become a fellow of the Royal Society ; and I may add to their testimony the result of my own experience in these matters (which extends to many years), that with one exception, the very few candidates that I have known rejected, had been so from motives which it is more easy to divine than proper to describe. The single exception to which I allude, and in which the rejection of the candidate, though backed by every art and subterfuge of official and bureaucratic influence, was a manifest act of justice in behalf of science—occurred only a few years back, and was principally ascribed to the open, candid, and manly conduct of a great friend of science, who knew, better than any one else, the unfitness of the candidate, from having been at the head of a service in which the candidate filled at one time a subordinate situation, but in which he afterwards occupied, how justly God knows, a higher office.

The best mode of obviating all these inconveniences to the Society and serious injuries to science, is simple. The candidate's name, recommended by at least six fellows who are either acquainted personally with the candidate ~~date~~ or know him by character, or through his works, to be a scientific man, might be proposed to the Council at their first meeting in every month, for election into that class of the Society for which the pursuits and pretensions of the candidate qualify him ; and this proposition should be made by the fellows of the same class, except as regards those who wish to be admitted into the free class, and who may be recommended and proposed by any six of the fellows.

The Council having registered, according to seniority, in their minutes, the receipt of all such recommendations in the

course of the months of November, December, January, February, March, April, and May—and having during that period ascertained the number of vacancies which may exist in each of the classes, will cause such a number of vacancies to be fairly inscribed on a board in the meeting-room, where it shall remain during the last three meetings but one of the session, together with the list of all the candidates proposed to the council in the course of the session, to fill the vacancies in each respective class, and the names of the persons recommending such candidate. At the last ordinary meeting of the Society, these lists having been previously printed, headed thus: “Lists of Candidates for the vacant Fellowships in the class Mathematics—Astronomy, &c. arranged according to the seniority of their proposition,” should be distributed to the fellows present at the meeting—who shall proceed to elect, out of the whole list of candidates, a sufficient number of fellows to fill the existing vacancies, by marking a number against each of their names, from one upwards, according to the number of fellows to be elected; and the rest of the candidates shall stand over till the next yearly election, unless in the meanwhile they should desire to withdraw their names by application to the Council. This mode of taking the votes of a large community—devised by the celebrated Prony, was adopted at the very beginning of the first French Revolution in every great assembly, as one which renders it mathematically impossible either to exclude unjustly, or to admit improperly any candidate; it being understood that the balloting lists are not to be distributed previous to the meeting at which the fate of the candidates is to be decided. Nor is the circumstance of all sort of direct black-balling being excluded from this sort of numerical ballot, a feature of mean recommendation in its favour. Equally so is another circumstance attending it, namely—that the fel-

lows who elect have an opportunity of marking the comparative degree of estimation in which they hold such candidates as scientific men, by their mode of placing the numbers opposite those candidates whom they desire to see elected.

This plan of reform in the election of fellows of the Society would require the previous repeal of as much of Chapter I. of the Statutes, as in principle and practice is opposed to the present proposition—but once established in virtue of a new statute of the President and Council, we should find in it the following advantages: the abolition of the ridiculous system of certificates, which has seldom prevented an improper person from entering the Society, or a very proper one from being excluded through canvass or cabals—the doing away of the interruption caused by balloting, once, twice or more times every night of meeting, to the great annoyance of every one present, and the interruption of the right business of the Society—the performance of a pleasant task, (now an irksome one) by every fellow who wishes well to the Society, began and ended at one sitting, without much possibility of votes being improperly influenced—the certainty of seeing a commendable selection made by the fellows assembled to perform a solemn act—the exclusion of all black-balling, and consequently the exclusion of every sort of influence, of bad spirit, evil intention and antipathy, previously and systematically combined against any candidate—lastly, the simplicity and facility with which the great duty of recruiting the limited ranks in the Society's classes, could be accomplished by a single operation in each year.

It is manifest that any plan must be better than the one at present in force, by which the number of fellows keep increasing yearly, without a proportionate increase of respectability, and in spite even of a sensible rate of mortality among them, as will be seen from the following tables:—

TABLE

*Shewing the Progress of the Balloting-box at the Royal Society, or the Number of Fellows admitted into that learned Body since the beginning of the present Century.*

1801 .. 24	1811 .. 29	1821 .. 45
1802 .. 21	1812 .. 25	1822 .. 29
1803 .. 16	1813 .. 16	1823 .. 16
1804 .. 22	1814 .. 27	1824 .. 26
1805 .. 20	1815 .. 32	1825 .. 15
1806 .. 19	1816 .. 35	1826 .. 33
1807 .. 23	1817 .. 26	1827 .. 23
1808 .. 19	1818 .. 38	1828 .. 30
1809 .. 16	1819 .. 46	1829 .. 24
1810 .. 27	1820 .. 32	1830 .. 27 up to the
		4th June
<hr/> 10 yrs. . 207	<hr/> 10 yrs. . 306	<hr/> 10 yrs. . 268

General total of admissions in 30 years 781, being, on an average, 26 every year. But then this average will be found to differ materially, if we compare the admissions of the first *decennium* with those of the third, and still more so with those of the second. For we find that, in the first ten years of the present century, the average rate of admission was  $20\frac{7}{10}$ , while that of the third *decennium* amounted to  $26\frac{4}{7}$ , and that of the second to  $30\frac{3}{7}$ . Hence it is manifest, from this circumstance alone, that an honor which was, in the first ten years of the 19th century, conferred moderately, because guardedly, was, through the remissness of the president and council, so cheaply obtained in the course of the next succeeding ten years, that, for the last ten years, a somewhat smaller number of candidates has solicited the like distinction.

*Analytical and Proportional Table of the Mortality among the F.R.S.  
since the beginning of the present Century, and including 1800.*

YEARS	Total No. of Mem- bers.	Total No. of Membs. dead.	Proportion	Names of the most conspicuous Members dead.
1800	513	17	1 in 30*	Wm. Cruikshank—Dr. Howard— Ramsden.
1801	508	20	1 in 25*	Dr. Heberden—Dr. Pulteney—Sir G. Staunton, Bart.
1802	517	19	1 in 27*	Dr. Darwin—Dr. Fordyce—Dr. Monro.
1803	516	20	1 in 26†	Sir William Hamilton—Rev. Dr. Layard—The Chemist Woulfe.
1804	512	16	1 in 32	Dr. Percival—Dr. Priestley.
1805	515	19	1 in 27*	Dr. James Currie—Dr. Patrick Russell, of Aleppo.
1806	513	16	1 in 32*	Bishop Horsley—Dr. Turton—Earl Macartney.
1807	515	18	1 in 29†	Dr. Gray, one of the secretaries, and the celebrated De Paoli.
1808	542	11	1 in 49*	Christian VII. King of Denmark.
1809	548	17	1 in 32*	Sir George Baker—Dr. Pitcairn— Duke of Portland.
1810	547	21	1 in 25*	Tiberius Cavallo—Mr. Cavendish.
1811	548	17	1 in 32*	Baron Dimsdale—Rev. Dr. Mas- kelyne.
1812	540	17	1 in 32†	Dr. Garthshore—Rev. Dr. Hamilton —Mr. Howard—Mr. Kirwan— Sir T. Jones—Dr. Lind—Dr. Willan.
1813	566	12	1 in 47*	Randolph, Bishop of London—Dr. Shaw—Dr. Simmons—Mr. Town- ley.
1814	574	16	1 in 36†	Dr. Burney, Mus. Doc.—Lord Minto —Count Rumford.
1815	578	24	1 in 24*	J. C. Lettsom, M. D.—Marquess of Bute—Shirley, Earl Chesterfield Smithson Tennant.
1816	582	20	1 in 29*	King of Würtemberg—Duke de Bouillon—Duke of Norfolk—Earl Warwick—Mr. Howard.
1817	599	17	1 in 35*	Dr. Combe—Sir J. Earle—Dr. Saunders—Earl Stanhope—Dr. Wells—Duke of Marlborough— Duke of Northumberland.
1818	597	20	1 in 30†	Admiral Bligh, of the Bounty—Rev. Dr. Burney—Warren Hastings— Dr. Haygarth.
1819	609	15	1 in 40*	Dr. Clarke—Mr. Hey—Rev. Dr. Cyrell Jackson—W. Playfair— Mr. Watt.

1820	641	16	1 in 46*	H. M. George III.—Sir J. Banks—Presid. Dr. Fothergill—Rev. Dr. Milner—General Mudge—Sir Home Popham—Arthur Young.
1821	650	16	1 in 41†	Dr. Bancroft—Sir F. Millman—Mr. Rennie—Mr. J. Wilson, Surgeon.
1822	670	20	1 in 33*	Sir H. Englefield—Rev. D. Keate—Sir W. Herschel—Lord Londonderry—Dr. Marcet—Dr. Lee—Sir E. Nepean—Dr. Parry, of Bath—Sir C. Pegge—Dr. Pemberton—Dr. Carmichael Smith—Rear admiral Kinnaer.
1823	687	29	1 in 24†	Dr. Baillie—Baron Best—Earl of Bridgwater—Bishop of Middleton—Lord Erskine—Lord Glenbervie—Dr. Haighton—Dr. Hutton—Dr. Jenner—Colonel Lambton—Earl St. Vincent—Archdeacon Wollaston.
1824	674	11	1 in 61	Lord Byron—M. Chevalier—Dr. Falconer—Mr. Lowry—Rev. T. Bennett—Baron Mazeres.
1825	675	17	1 in 41†	Higgins, who first hinted the atomic theory in chemistry, was the only person at all conspicuous among the F.R.S. deceased this year.
1826	680	10	1 in 68	Taylor Coombe, one of the secretaries—Dr. Noeder—John Pearson—Sir Stamford Raffles.
1827	685	18	1 in 38	Duke of York—Mr. Canning—Bishop Goodenough—Mr. Cline—Dr. Mason Good—Lord Guilford—Earl Morton—Colonel Beaufoy—Rev. J. Hellins.
1828	689	19	1 in 36*	Sir W. Congreve—Archdeacon Cox—Col. Denham—Mr. Heaviside—Dean Hook—J. Planta—Henry Salt—Sir E. Smith, the botanist—Dugald Stewart—Dr. G. Pearson—and Woodhouse, the mathematician; including Sir H. Davy—Dr. Young—Dr. Wollaston.
1829	692	28	1 in 25†	Sir T. Lawrence—Major Rennel, the geographer—Mr. Chenevix.
1830	687	16		
		up to		
		October		

Average mortality in 29 years, not including the current year (1830) = 1 in 34½.

N. B.—There are several inaccuracies in the keeping of these reports in the journals of the Society, which I have endeavoured to correct. In more than one instance I have found the same "fellow" reported dead during two successive years. The deaths are reported here in the years subsequent to their occurrence.

The \* or † are intended to specify a small fraction more or a fraction less.

Respecting the publication of papers in the Philosophical Transactions, which form another part of the second topic of my present section—all that I have to say on the subject of reforming the present manner of executing that trust by the council—and with reference to the grounds of such a reform, may be collected—from my observations contained in the first section, where I commented on the two tables of papers read before the Royal Society during the last thirty years, and—from the remarks contained in the present section, where I speak of the appointment of committees by each class of the Society—to whom papers are to be referred, and by whom a report or opinion on the importance of the paper is to be made to the Society, which ultimately deliberates upon, and decides, the question of printing such papers by ballot. The first series of observations sufficiently prove the existence of serious abuses, to which the present mode of judging the authors' papers has been liable; and the second series of observations shew the ready and easy remedy against all such abuses—as well as the propriety of confiding to the Society at large, assisted by the opinions of able practical men, an important decision on which the character of that Society is mainly to depend.

Another very important point of consideration, under this head, is that of the treasurer's accounts. I feel assured that I am speaking the language of the major part of the Society, when I assert that the mode in which the treasurers have hitherto made their report is an insult to the good sense, honesty, and privileges of every member. The money which the treasurer has the disposal of, under directions from the president and council, is the money of the fellows, voluntarily contributed. The manner of disposing of that money ought therefore, in strict justice, to be laid before the fellows yearly. The various sources of the revenue of the Society, their progressive increase or decrease, the nature of its permanent



funds, the state of the funds, respectively, belonging to each of the foundations for either medals or lectures ; all these points ought to be regularly set down, and put before the Society at large. On the other hand, the several and individual items of expenditure, no matter under what head, should be as distinctly detailed to the members in a regular balance-sheet, audited by the five auditors appointed in virtue of the statutes. Besides signing the said balance-sheet, the auditors should declare that they have *personally* examined every voucher in support and explanation of the items charged. Of what benefit can it be to the Society at large to be told, in any particular year (take 1829 for instance), "that the total receipts amounted to the gross sum of £4943. 15s. 8d. (prodigious !) and the total expenditure to £4647. (still more prodigious !) leaving a balance in the treasurer's hands of £296. 15s. 8d. ? Or what satisfaction can it convey to the Society to be told, farther, that five gentlemen, whom custom has destined to become, nearly at the same time, members of the council, and cannot, therefore, properly be considered as legal auditors, have been examining the accounts and found the balance correct ? No, no ; let the Society keep a watchful eye, in these times of official extravagance, on the expenditure of its own annual revenue, and exert a proper and just control over the office of treasurer. Sad examples have lately started into notice at two of the numerous scientific societies of this metropolis, to warn us against that apathy and neglect of an important duty on the part of those societies, which have been nigh proving destructive to their existence. Let the Royal Society be put on the footing of the Royal Institution, where a distinct balance-sheet is presented by the managers to the members, and discussion promoted by them on the several branches of expenditure. This balance-sheet should be printed, and circulated among the members at the same time with the balloting lists for the general elections, at the anniver-

sary of the Society, and at least one week before such anniversary.

In order to carry this reform into execution, it will be necessary to modify slightly, and add to, the present statutes contained in the 8th Chapter.

3<sup>d</sup> *Topic*. The choice of President and Officers of the Society.

What I wrote in 1830 under this division for the special object of assisting my co-fellows in making a proper choice of the HEAD and officers of the Society, was befitting then, and proved useful; but is inapplicable to the present conjuncture. Of the mode of electing those officers now pursued, I shall have to offer a few observations presently.

### THIRD SECTION.

*Containing a brief, Historical, and Statistical Summary of the Proceedings of the Royal Society, since the Election of its actual President, His Royal Highness the Duke of Sussex.*

I have shewn in the first part of this volume, in what state the Royal Society found itself at the end of the first thirty years of the nineteenth century—of what materials it had for many years consisted, and was then consisting—what additions to British and general science it had been instrumental in making during that period—what were the most prominent causes of its palpable and progressive deterioration—how many abuses required eradication which had crept into the administration of its affairs—and what errors had been committed in the management of its pecuniary concerns.

All which propositions I supported by authentic facts, tables, documents, and reports. In the second part, I took a different course. I entered into the consideration of the best mode of restoring the Society to its former vigour—of the most eligible way to improve its composition, and of a plan for rendering its ordinary meetings vastly more interesting. I proposed many necessary alterations in almost all the branches of its administration which offered anomalies, abuses, or defects; such as the treasurer's accounts—the revision and publication of papers—the election of officers and fellows—the proceedings at the ordinary meetings of the Society—the awards of medals and appointment of lecturers—and the composition of the council. Lastly, I suggested that certain changes, both in Charter and Statutes, should be made, which were calculated to facilitate the various reforms I had propounded. The period, at which these several suggestions and recommendations, for all such wholesome changes, were brought forward was deemed the most propitious that could be desired; inasmuch as the probability of a new president being about to be elected, and that president the illustrious personage on whom the author of those suggestions, in common with a large number of the fellows, fully relied for their being taken into consideration—with a renovated council also, and, probably, new officers—led us to expect rulers, who, with the vigour of new men in old places, would set about to restore the dignity, efficiency, and importance of the Royal Society. The result of the election was precisely what had been wished, and that result was considered as the first great step to reform.

We have now to see how much of this expectation has been realized in the course of the first lustre which has since elapsed—what improvements have been introduced—what errors have been atoned for and defects remedied—which of the suggestions for a wholesome reform of the Society, thrown

out in the Second Section and published before the said election, have been adopted; and, finally, we have to determine whether or no, such a thorough change ought to be made as shall ensure, (much more rapidly and effectually, than the experience of the last five years seems to promise,) the renovation of a body of men, who really do not seem to know or to care, how and for what purpose they associate together. Such shall be the subjects of the third, or present Section.

The Topics which offer themselves for consideration in this division of the volume, seem briefly these; and they may be better announced in the garb of questions.

1. Is the present composition of the Society different, and better than it was in 1830?
2. Has any change taken place since, which may be considered an improvement in the manner of electing fellows into the Society?
3. Have any steps been taken to render the meetings more interesting, and are they better attended?
4. Is the manner in which papers are now read before the Society, and afterwards adjudged for publication or not, better, less defective, and more likely to encourage authors to come forward with their contributions to science?
5. Has there been any improvement introduced into the department of honorary rewards, and other distinctions in the gift of the Society?
6. Are the financial concerns of the Society on a better footing than they were previous to 1830, and better conducted?
7. Is the present process of electing the officers and council different, and if so, superior, to the one before in existence?
8. Has the composition of the council since the reform of 1830 been better, and have the members, as well as the

officers, both honorary and stipendiary, attended to the Society's interests with more assiduity and effect than in former years?

9. What measures have the successive councils adopted to improve the well-being of the Society at home, and to increase its reputation abroad, by any advance in science which they may have been instrumental in promoting?
10. And, finally, are there not reasons sufficiently convincing for the immediate adoption of the plan of general and total reform suggested in the second section of this work in 1830—as well as proofs quite conclusive, under our own immediate observation, that such a plan is not only safe in theory, but gloriously successful in practice?

These various Topics it will be my duty clearly, yet briefly, to develop; and, in accordance to my usual method, their development shall always be supported, or illustrated, by facts derived from official documents and information.

In this section again, as in the other two, precision and order require that the different Topics should be considered in groups, as well as individually. I shall, therefore, divide them into :—

- A. Topics which have reference to the fellows at large (No. 1, 2, 3).
- B. Topics which relate to papers and rewards (No. 4, 5).
- C. Whatever concerns the treasurer (No. 6).
- D. Topics which embrace the election, constitution, and efficiency of the officers and council (No. 7, 8, 9).
- E. Lastly, those Topics which constitute the question of a general reform (No. 10).

*A. Topics which have a Reference to the Fellows at large.*

**1<sup>st</sup> Topic.** Is the present composition of the Society different, and better than it was in 1830?

This will be better understood by following the plan, adopted in the first section, of exhibiting all the additions made since 1830 to the List of Fellows, classed under the same divisional heads in which I arranged the fellows who were actually on the General List of the Society in that year, —accompanying each name with the statement of what each particular fellow, before or after his election, had done for the good of science, by contributing to the Philosophical Transactions. All invidious distinctions and pointed personal allusions are thus avoided, and my readers, as on the occasion before mentioned, will have facts only from which to form their own judgment. I shall simply allow myself the liberty of making a few remarks, should the opportunity arise, after the insertion of the Tables.

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GENERAL ADDITIONS

MADE TO THE

**LIST OF FELLOWS, (1830,)**

BY SUBSEQUENT AND SUCCESSIVE ELECTIONS INTO THE SOCIETY  
DURING THE PERIOD OF FIVE YEARS.

TABLE I.

**BISHOPS, distinguishing those who have contributed to the Phil. Transactions.**

| 0 | Maltby, Lord Bishop of Chichester.

TABLE II.

**NOBLEMEN, distinguishing those who have contributed to the Philosophical Transactions.**

0	Viscount Adaire	0	Lord Oxmanstown
0	Marquess Breadalbane	0	Earl of Selkirk
0	Duke of Buccleugh	0	Lord Teignmouth
0	Lord H. J. Spencer Churchill	0	Earl of Tyrconnel . . . . . 9
0	Lord Denman . . . . . 5		

TABLE III.

*OFFICERS of His Majesty's Fleet, distinguishing those who have contributed to the Philosophical Transactions.*

0	Capt. Hon. G. Elliott	0	Commander Hon. Fred. de Roos	5
0	Capt. J. Lihon	0	Lieut. W. S. Stratford	
0	Capt. G. W. Manby	0	Capt. W. Symonds	7
0	Capt. Sir Samuel Pechell			

TABLE IV.

*OFFICERS of his Majesty's Land Forces, distinguishing those who have contributed to the Philosophical Transactions.*

0	Lieut. Alex. Burnes, E.C.S.	0	Col. And. Leith Hay, K.H.	5
0	Capt. Chesney, Royal Artillery	0	Capt. Walker Nugent Smees	
0	Major T. H. Clerke, K.H.	1	Lieut. Col. W. W. Sykes (E.C.S.)	7
0	Col. Sir R. J. Harvey			

TABLE V.

*CLERGYMEN, distinguishing those who have contributed to the Philosophical Transactions.*

0	Rev. J. Barlow, M.A.	0	Rev. Rob. Murphy, M.A.	
0	Rev. J. W. Bellamy, B.D.	0	Rev. Frederick Nolan, LL.D.	10
0	Very Rev. George Chandler, D.D.	0	Rev. Augustus P. Saunders, M.A.	
0	Rev. Richard Creswell, M.A.	0	Rev. Henry Tattam, A.M.	
0	Ven. George Glover, M.A.	5	Rev. F. S. Turnbull, M.A.	
0	Rev. T. W. Hope, M.A.	0	Rev. Richard Walker, M.A.	
0	Rev. W. B. Hawkins, M.A.	0	Rev. J. Warren	15
0	Rev. W. F. Lloyd, M.A.			

TABLE VI.

*GENTLEMEN, who are titled in the Law, learned in the Law, or practising the Law: distinguishing those who have contributed to the Philosophical Transactions.*

0	Robert Alexander, Esq.	0	John Lee, LL.D.	
0	Charles Pinton Cooper, LL.D.	0	Honorable Sir G. Rose	
0	John Disney, Esq.	0	William Spence, Esq.	
0	J. W. Freshfield, Esq.	0	Archibald J. Stephen, Esq.	10
0	Thomas Galloway, Esq.	5	Samuel Warren, Esq.	
0	Woronzow Greig, Esq. M.A.	3	James Wigram, Esq. M.A.	12

TABLE VII.

*PHYSICIANS—distinguishing those who have contributed to the Phil. Trans.*

0	Sir David Barry, Knt, M.D.	0	W. Ch. Henry, M.D.	10
0	James Burnes, M.D.	0	James Hope, M.D.	
0	Sir William Burnett, Kt, M.D.	0	Thomas Mayo, M.D.	
0	James Clarke, M.D.	0	Sir William Russell, Bart. M.D.	
0	J. Copland, M.D.	5	Richard Taunton, M.D.	
0	James Alexander Gordon, MD.	0	John Warburton, M.D.	15
3	Marshall Hall, M.D.	0	Isaac Wilson, M.D. R.N.	
0	John Hamett, M.D.	0	Ch. J. B. Williams, M.D.	
0	Bissett Hawkins, M.D.	0	G. Witt, M.D.	18

TABLE VIII.

*SURGEONS—distinguishing those who have contributed to the Phil. Trans.*

0	Charles James Beverley, Esq.	0	Joseph Hodgson, Esq.	5
0	Edward Coleman, Esq. Vet. Coll.	1	Francis Kiernan, Esq.	
0	Thomas Copeland, Esq.	0	Martin Tupper, Esq.	
0	Sir Richard Dobson, Kt.	0	William Rob. Whatton, Esq.	8

*Seniority List of the Physicians and Surgeons who have been admitted Fellows of the Royal Society since 1830.*

#### PHYSICIANS.

1831—Isaac Wilson, M.D. R.N.

|| 1832—Marshall Hall, M.D.

1832—Sir William Russell, Bart. M.D.	George Witt, M.D.
Sir David Barry, Kt. M.D.	Bissett Hawkins, M.D.
James Clark, M.D.	1835—James Burnes, M.D.
James Hope, M.D.	John Hamett, M.D.
1833—Sir William Burnett, M.D. R.N.	James Alex. Gordon, M.D.
J. Copland, M.D.	Ch. J. D. Williams, M.D.
1834—W. Ch. Henry, M.D.	Richard Taunton, M.D.
John Warburton, M.D.	Thomas Mayo, M.D.

## SURGEONS.

1831—Joseph Hodgson, Esq.	Wm. Robt. Whatton, Esq.
Ch. J. Beverley, Esq.	Francis Kiernan, Esq.
Edward Coleman, Esq.	1835—Martin Tupper, Esq.
1834—Thomas Copeland, Esq.	Sir Rich. Dobson, Kt.

## TABLE IX or FREE LIST,

*Alphabetically arranged, of such Gentlemen as do not properly fall under any of the preceding Classifications—distinguishing those who have contributed to the Philosophical Transactions.*

0	Hon. George Charles Agar, M.A.	0	Robert Hudson
0	Charles Ansell	0	Joseph Jekyll, M.A.
1	Alexander Barry	0	Thomas Jones
0	Ed. B. Beaumont	0	Thomas Leybourne..... 45
0	Albert W. Beetham ..... 5	1	Joseph Jackson Lister
0	W. J. Blake, M.A.	0	George, Lowe
0	Sir Felix Booth, Bt.	0	Thomas Maclean
0	William Borrer	0	Frederick Madden
0	Thomas Botfield	0	Sir William Molesworth ..... 50
0	William Brockedon ..... 10	0	George Moore
0	Isambard Kingdon Brunel	0	Arthur Morgan
0	Alexander Caldcleugh	0	Charles Octavius Morgan
0	Francis Corbeaux	0	J. Carnac Morris
0	Rt. Hon. Sir Ed. Cust, K.C.B.	0	Benjamin Oliveira ..... 55
0	John Davidson ..... 15	3	Richard Owen
1	Thomas Stephen Davies	0	Charles Henry Oakes, B.A.
0	Griffith Davis	2	Henry Robinson Palmer
0	Joseph Delafield	0	Edward Pearson
0	Robert Adam Dundas	0	J. Henry Pelly ..... 60
0	John Eyde ..... 20	0	John Philips
0	Sir Ph. de Malpas Grey Egerton, Bart. M.P.	0	Benjamin Phillips
0	Charles Elliott	0	H. F. Spencer Ponsonby
0	Howard Elphinstone, M.A.	0	J. Russell Reeves
0	G. W. Featherstonhaugh .... 25	0	Edw. Ashford Sandford, M.P. 65
0	Sir W. B. Folkes, Bt. M.P.	0	Michael Thomas Sadler, M.P.
0	James David Forbes	0	James Smith, of Jordan Hill, Glasgow
0	Henry Percy Gordon	0	Sir Martin Archer Shee, Pres. R.A.
0	Right Hon. Sir James Graham, Bt. M. P.	0	Richard Saumarez
0	William Gravatt ..... 30	0	Christopher R. Talbot ..... 70
2	J. Edward Gray	0	Henry Fox Talbot
0	Edward Griffith	0	Charles Terry
0	Josiah J. Guest, M.P.	0	Henry Sykes Thornton
0	John Davies Gilbert	0	William Tite
0	Edward Halswell, M.A. .... 35	0	Richard Twining ..... 75
0	Philip Hardwick	0	Charles J. K. Tynte, M.P.
0	J. Greathed Harris	0	John Waterhouse
4	W. Snow Harris	0	William Wilkins, R.A.
0	J. H. Hawkins	0	Horace H. Wilson
0	James Henderson ..... 40	0	J. Gardner Williamson ..... 80
0	James Horne		



The task of commenting upon the preceding tables is, from the nature of the work itself, very light. The Society has received into its bosom in the last five years, (reckoning from June 1830, the period to which the lists given in the first section were made up, down to the anniversary of 1835) one hundred and fifty-eight members. These are additions certainly, but whether they have improved and rendered the present composition of the Society better, is a question which a few remarks will settle. Among the newly-elected fellows, 1 is a prelate, 10 belong to the high aristocracy; 7 are naval, and an equal number are army officers; 15 belong to the clerical profession, and 12 are in some way or other connected with the law. Of physicians there are 18, while the surgeons are only 8—and, lastly, of persons who cannot be specifically designated, as many as 80, or more than one half of the whole, are on the list. Now, in determining the excellency of the materials of which the Royal Society is composed, we must not look either to the rank and station, or to the mere respectability of the private character of its members, which latter is *censé* to be the same in all; but we must consider the pretension which such members can have to the title of *scientific*, or “labourer in the vineyard” of science; and we have no other means of judging on this point, except by looking into the Philosophical Transactions, or the records of the Society. With these, then, as a guide, we find, that, of all the additional Fellows just enumerated, the first, second, third, fifth and sixth classes have not contributed one line to the general stock of scientific information, either before or after their election; that the fourth and eighth classes have each produced one paper; the seventh class three, and the ninth class fourteen papers, making in all nineteen papers in the space of five years, contributed by one hundred and fifty-eight new fellows! The reader may now draw his own conclusions as to any improvement effected in the composition of the Society since the change of administration in 1830.

**2<sup>d</sup> Topic.** Has any change taken place since, which may be considered an improvement in the manner of electing fellows into the Society ?

In the second Section (page 92 and 93) enough was said to give an idea of the manner in which Fellows were elected in the Society. The process was shewn by Mr. Babbage, by Sir James South, and by myself, to be in every way objectionable, and certainly not calculated to ensure the high character which the Society ought to maintain as a scientific body. Its inconveniences were pointed out, particularly as regards the interruption which it almost nightly caused to the more important business of the meeting. A radical change, which would have obviated all such objectionable features in the mode of electing candidates, was proposed at the same time (page 94), two important points of which were—1st, that the number of fellows who recommended the candidate, should be at least double what it had hitherto been ; and 2dly, that the ballot for all such candidates should take place once only during the session (page 95). Soon after the election of H. R. H. to the chair, I find from a minute of the council, that the signatures requisite for a certificate recommending a candidate, were ordered to be in future, six, or double the number previously required ; and this new regulation was inserted in the new edition of the Statutes, published in 1831. With regard to the second suggestion, the council by their minutes, previously to 1831, seem to have adopted the principle, modifying however the practice ; and accordingly it was resolved, that the ballot for the election of fellows, should thenceforth take place only four times during the session. But even this improvement, as undoubtedly it was, has since been withheld from us, and the old practice restored. The reasons for such a repeal, and the curious consequences arising therefrom, I have stated at length in the Introduction to the present volume. It appears manifest from all this, that the councils have, since 1830, occupied them-

selves with the subject of the election of fellows, which had remained undisturbed for a century ; but they have evidently lacked the courage, I will not say the inclination, to do as much as it is necessary to improve the manner of proceeding in it ; whether from the fear of lessening the revenue of the Society, or from any other motive, it is impossible to decide. I should be inclined to assign their remissness to the former cause, judging from another material alteration which they have introduced into the process of “ electing fellows,” and by which the number of ten ordinary meetings, during which it was requisite that a certificate should remain suspended before the election, agreeably to the Statutes, has been reduced by a minute of council of Feb. 1834, to five only—thereby affording a much greater facility to the “ making of fellows,” with a view, evidently to quicken the resources, but certainly not with the effect of improving the composition of the Society. If the present mode is to be persisted in ; ought not the certificate to state whether the candidate belongs to any particular profession—when that profession is not evidently designated, as in the case of army and naval officers, clergymen and physicians, by a distinct professional appellation attached to his name ? We should then know how many lawyers, surgeons, artists, mechanics, teachers, curators, and others, seek for admission into the Society.

It would seem as if the council had been, at times, somewhat ashamed of the certificates which have been read by the secretary at the ordinary meetings of the Society for election ; since I find, on looking over the minutes of Council of June 1835, that a resolution was passed in that month, directing the secretaries to read the certificate of each candidate to the council previously to their “ having authority to read it to the Society”—and that the chairman, on every such occasion, shall ask the council on what ground they consider the candidate as entitled to the honor of admission. This is doubt-

less a great moral check to the *exorbitant* facility with which candidates are recommended for election into the Society, and would bespeak an earnest intention on the part of the committee, to curb a little the promiscuous and motley procession of persons of all description into the Society—were it not for a previous resolution which diminishes one half of the number of weeks of probation hitherto required, and a still more recent regulation, by which all printed notices of the names of candidates (next in turn of election), which used to be circulated among the Fellows a fortnight previously to the ballot, are now done away with. This looks a little like what is vulgarly called “blowing hot and cold.”

On the whole then, more remains to be done, than has been done, to improve the manner of electing fellows into the Society. Two of the changes made in it, since the accession of the Duke, are unquestionably improvements; but a second change is precisely the reverse, as will be seen from the following Table, exhibiting the progress of the balloting-box at the Royal Society, from June the 10th (inclusive) 1830, to Nov. 30, 1835.

1830 .....	7	Total	1833 .....	15
1831 .....	27		1834 .....	50
1832 .....	26		1835 .....	33
		158		

Giving an average of 30 and 1-5th yearly.

THUS CLASSED.

1 Bishop.	15 Clergymen.
10 Noblemen.	12 Lawyers.
7 Naval Officers.	18 Physicians.
7 Army Officers.	8 Surgeons.
80 Gentlemen without any specific occupation besides—Painters, Sculptors, Architects, Engineers, Opticians, Mechanics, Teachers, Clerks, Keepers of Museums, &c. &c.	

If we take this number of elections from June, 1830, to the anniversary meeting of the Society in 1835, and add it to the total number of fellows elected from the beginning of the present century to June, 1830 (page 97), we obtain a general total in the space of thirty-five years of 939 elected fellows, being an average of  $26\frac{2}{5}$  for every year.

Now the printed list of the Royal Society for 1830, published on the occasion of the election of a new president, contained 686 fellows;\* and as the mortality reported to have taken place among them in the years 1830—1, 2, 3, 4, and 5, diminished that number by 118; it follows, that if to the remainder we add the 158 fellows, elected between the 10th of June 1830, and the anniversary of 1835, as before stated, we shall have, at present, a current list of the scientific men of England,† or fellows of the Royal Society of London, amounting to seven hundred and twenty-six, which may be assumed to be the number now on the registry of that Society, and which are classed as follows :—

7 Bishops.	80 Clergymen.
63 Noblemen.	72 Lawyers.
29 Naval Officers.	87 Physicians.
35 Army Officers.	25 Surgeons.
328 of a miscellaneous description.	

On the other hand, the list of mortality amounting to 118 in the six years, as regards the various denominations of the fellows deceased, seems to run thus :—

1 Royal Duke.	10 Clergymen.
4 Bishops.	3 Lawyers.
15 Noblemen.	11 Physicians.
6 Naval Officers.	4 Surgeons.
14 Army Officers.	50 of a miscellaneous description.

From this contemplation of deaths and admissions, we likewise deduce this gratifying fact; that the work of destruction is not equal to the work of creation, and that, therefore, the Royal Society may hope, thus far, to be perennial.

I shall now insert in this place, a Table of the Mortality among the F.R.S. during the last six years; and I purposely

\* The list in question contained in reality but 671 Fellows, because the number of deaths ascertained to have taken place in that year, up to the time of publication, 15 in number, had been deducted; but in my calculation the total number is assumed, as I deducted afterwards the general mortality for the whole year.

† Throughout this work I purposely abstain from considering the foreign members of the Society as part of that body.

include the year 1830, as in my former mortality table, the accounts were made up only to October. By so doing, the reader will be able to see at one view, by means of the Table at page 98, and the present one, the progress of mortality among the *scavans* of England in the course of the last 36 years. These two documents are presumed to be accurate, as far as the officers of the Society can vouch, and may assist some future statistical writer in discussing and calculating the following problem:—what is the proportion of deaths in a given number of persons of all ages, from 25 to 80, who live in easy circumstances, and whose pursuits are scientific?

*Analytical and Proportional Table of the Mortality among the F.R.S.,  
between 1830 and 1835, both inclusive.*

YEARS	Total No. of Fellows	Total No. of Deaths	Proportion.	Names of the most conspicuous Fellows deceased.
1830	687	19	1 in 36	Duke of Athol—Sir Rd. Brooke—Henry Browne—Sir Rbt. Farquhar—Sir Lucas Pepys, and Stephen Weston.
1831	709	22	1 in 32	Capt. Foster, R.N.—Abernethy—Rev. Fearon Fallows—Sir M. Maxwell—Earl Darnley—Sir B. Hobhouse—Thos. Hope—Dr. Sims—Rev. Holl. Carr—Archbishop of Dublin.
1832	692	19	1 in 36½	Sir R. Bickerton—S. Groombridge—Sir James Hall—Bishop Huntingford—Sir E. Home—Sir J. Mackintosh—Sir Walter Stirling.
1833	690	20	1 in 34½	Dr. Babington—Joshua Brookes—Lord Dover—Lord Dudley—Capt. Lyons, R.N.—Vice-Admiral Stirling—Sir J. Malcolm—W. Morgan.
1834	715	17	1 in 42	Sir G. Blane—Marquess Breadalbane—Rev. Dr. S. Clarke—Lord Grenville—Lord Hardwicke—Bishop Jebb—Mr. Sharpe—Mr. Snodgrass—Earl Spencer—Mr. Telford—Rt. Hon. Charles Yorke.
1835	695	21	1 in 33	Duke of Gloucester—Sir W. Blizard—General Hardwicke—Capt. Kater—Lord Darnley—Mr. Mathias—Dr. Maton—Mr. Sadler—Rich. Sharp—Mr. Troughton—Sir David Barry—Sir George Tuthill.

Before I conclude this part of the present section, I must

not omit to offer one or two remarks on another of the inconveniences attending the present process of electing fellows, namely, the *stigma* which is unquestionably cast upon the individual who is rejected, or *black-balled* (according to the technical phrase), and which has, occasionally, fallen on some of the candidates who were in every respect undeserving of it. If the Society consisted, in reality, of none but purely scientific men, exclusion from it, by the *black-balling* system, would be no keen reflection on the unsuccessful candidate; for, at most, he would only be considered as unfit to enjoy the honor of the three initials, because deficient in science. But, constituted as the Society is, and resembling as it does, a mere club-like association of highly respectable, well-educated, and very honorable men, with every kind, and no kind of scientific knowledge—the rejection of such as seek to form part of that association, is apt to be construed into a want, on the part of the candidate, of some of, or of all, those qualities, which I have just enumerated: unless we adopt another alternative, and suppose, with some, that private feelings, and professional jealousies, and political rancour dictate the *black-balling* expression that taints the unlucky candidate. To be the victim of any such unworthy principles, is no dishonour at all; and therefore it is, that on all the late occasions of candidates being *black-balled*, their want of success has been attributed to those principles; and their personal character has thus been protected from the effects of their exclusion. Viewing it in any way we please, however, this system is unworthy of men of science. It prevails only in this country, as regards scientific bodies;—and nowhere else in Europe is a *sçavant*, or a lover of science, exposed to such a mortification. The system of *selection*, which I suggested in 1830, on the plan proposed by the celebrated Prony—and which is the one adopted at all the great scientific academies of France, Italy, Germany, Russia, Prussia, and Sweden, is the only system

that ought to determine the fate of a candidate for admission. To be thought less than another, is mortifying only to the vain—it still leaves us the hope that, at some future occasion, we may rise in the estimation of our judges—and prompts us, by fresh zeal and new deeds, to add to our reputation and worth, in order to be better prepared to deserve the honor we mean to seek hereafter. This is precisely the effect, which the system of *selection* has on the unsuccessful candidates for the *Fauteuils* in the Academy of Sciences in France. Instead of mortification and dejection, the result of the scrutiny for the selection of one candidate out of many, produces in those who are not chosen, only the determination, instantly to set about some new and important research, that shall, at no distant period, extort from the members, a decision in their favor. During a close attendance of nearly two years, at the meetings of the Institute of France, twenty years ago, I witnessed this great truth strongly exemplified—and I could name one-third of the present members of that body, whom I recollect having been put to the *scrutin*, more than once, without success, and who, in consequence, set themselves to work the harder for it, until they have risen to great professional and scientific eminence, *tout en tachant de devenir membre de l'Institut*.

With pleasure do I retrace to my mind the names of some of these worthies, with whom I lived in habits of intimacy. — Magendie the physiologist, Cauchy and Despretz the mathematicians—Orfila, the chemist and toxicologist—Breschet, the anatomist—Beudant and Berthier, the geologist and metallurgist, and a host of others.

How different, alas! is the picture on this side of the channel! Where is the instance, to our knowledge, in which a candidate rejected by the contemptible process of *black-balling* at the Royal Society has striven to merit, by fresh ardour in the path of science or general knowledge, on a future occasion, the honor which has been denied to him?



Looking to the years only that have elapsed, since the accession of an illustrious Duke to the chair of the Society, not fewer than four candidates have been *black-balled* ; and in each case, it may safely be asserted, that the consideration of their qualifications as scientific men had never directed the issue of the election. The first, who was a member of Parliament, was backed by not fewer than fifteen fellows, the majority of whom were men of distinguished reputation, such as Lord Spencer, Sir G. Blane, Sir J. Mackintosh, Pollock, Elliotson, Lindley, Ellis, &c. Is he likely to try again the chance of so unjust and capricious a mode of election ? Or will the second do so ; a gentleman said to be a mathematician, but who was connected with the law, and whose certificate was also backed by many fellows of great weight ? Or the third, a physician practising the branch of obstetricy, whose religious tenets were supposed to be at variance with those of high-churchmen—but who, as a scientific man, if we are to believe the signatures appended to his certificate, of Blizard, Babington, A. Cooper, Travers, Earle, Lawrence, Sir J. Macgrigor, &c. was as fit for admission into the Society—as another physician many years younger in years and experience, who has been elected since, though his certificate bore but a few signatures, and a paper which he had read to the Royal Society, had been deemed unworthy of publication in the Philosophical Transactions, immediately before his election into the Society ? On the fourth, and last, case I shall offer no remarks. It has acquired so much notoriety from circumstances with which our scientific body ought to have nothing in common, and has so often been debated in the public journals, that the sooner it is forgotten the better. Do not these facts form a humiliating picture for the Society ? True there is a resource, even in the system of individual ballot, for the mortified candidate who has been black-balled ; if he have strong nerves, and chuses to disregard, on any future

occasion, the unfavorable impression which his former exclusion may be supposed to have created. He may try his chance, once more, and seek success in the assemblage of a larger number of friends to support him. But such examples have been of very rare occurrence, and are not likely to be greatly followed. One only instance, I am reminded of by the remarks contained in a letter signed *Socius alter*, which appeared in the *Times*, towards the close of last year, although there are two inaccuracies in that document. Unless I should be compelled, by any *farther* and equally *just* cause, to resent the conduct of the rejected candidate named in that letter, or of his supporters, towards me individually, I shall keep to myself the curious circumstances which attended the rejection of that individual, and which I discovered among the documents in the Archives of the Royal Society, instead of making them part of the history of that scientific body.

3<sup>d</sup> *Topic*. Have any steps been taken to render the meetings more interesting, and are they better attended ?

It is not difficult to answer this question. With the exception of one important measure, calculated to give additional interest to the meetings of the Society, by introducing some variety in its proceedings, which measure was first urged in this work at its appearance in 1830, no other step whatever has been taken for the purpose expressed in the title of this topic. The single measure of improvement to which I refer is the reading of such reports, as the council, in their wisdom, had directed to be drawn up on the nature and importance of certain memoirs presented to the Society ; which reports have been uniformly committed to men of eminent talent. The expression of approbation which fell simultaneously from all the fellows present at the reading of the first report of this kind, though not public, was yet great and sincere, and with great pleasure did I witness it. We all felt, on that occasion,

what the Royal Duke so eloquently expressed on the subject at a subsequent assembly, when it is customary for the President to address the Society on its anniversary ; and the impression of which I would fain convey to my readers in the very words of that illustrious Prince :

“ There is, however, one arrangement, admirably calculated, in my opinion, to increase the usefulness and to uphold the credit of the Royal Society, which that Report does not notice ; I mean the Resolution adopted by the Council to allow no Paper to be printed in the Transactions of the Royal Society, unless a written Report of its fitness shall have been previously made by one or more Members of the Council, to whom it shall have been especially referred for examination. This Resolution has been acted upon for the greatest part of the last year, and some of those Reports of a favourable nature have been read before the Society, and printed in the Abstracts of our Proceedings. When the number of papers which come before the Society in the course of a year is considered, as well as the great diversity and occasional difficulty of the subjects which they embrace, it will be at once seen how greatly the labours and responsibility of the Members of the Council must necessarily be increased by the rigorous adoption of such a system. It is in consequence of the important influence which this plan is likely to have upon the well-being of the Society, that I am induced to enter somewhat in detail into the reasons which have led to its adoption.

“ It has long been the custom of many Foreign Societies, and particularly of the Academies of Science and of Medicine at Paris, to require written Reports upon every paper submitted to them, from a Committee of their Members : as the persons who are selected for this duty are frequently veterans in their respective sciences, who have earned by their labours an European reputation, the Reports which are thus produced prove often more valuable than the original com-

munications upon which they are founded, and the collections of them, as is well known, form a most important part of the stock of modern science. Many other advantages also have been found to result from the adoption of this practice. The decisions of men who are elevated by their character and reputation above the influence of personal feelings of rivalry or petty jealousy, possess an authority sufficient to establish at once the full importance of a discovery, to fix its relations to the existing mass of knowledge, and to define its probable effect upon the future progress of science. They thus operate as a powerful stimulus to the exertions of the genuine cultivators and lovers of science, who feel assured that their labours will be properly examined and appreciated by those who are most competent to judge of their value; whilst, at the same time, they tend to keep under the obtrusive and turbulent pretensions of those who presume to claim a rank, as men of science, for which they possess no just title or qualification.

“It was from a conviction that many similar advantages would result from such a system of Reports in the Royal Society, that the Members of the Council were induced to agree to its adoption; and it is to be hoped that, when a longer experience has given to such a plan a more complete organization, and has shown the practical extent to which it can be conveniently carried, it will then become a permanent law of the Council.”—*Address of H. R. H. the President, delivered at the Anniversary Meeting, Nov. 30, 1832.*

In this admirable *exposé* of the advantages of such a practice, there is one which H. R. H. has forgotten, as he also omitted to state the condition on which alone all such advantages can be secured. The advantage which was not enumerated, is the greater degree of interest which such a practice, when carried into effect at the ordinary meetings of the Society, adds to those meetings—an interest which is still farther

increased by the facility afforded, through such reports of understanding even the most abstruse subject, and of rendering it almost popular—and the condition which alone can render that practice a source of so many advantages, is that it should be duly and regularly persevered in, and not began and concluded in one and the same year. That such has been the case, as far as the Society at large can judge from experience, is a fact of which every fellow, in the habit of attending the weekly meetings, must be aware, and one which the journal book of the Society can testify.

Even, this single measure of improvement, therefore, calculated to give a greater tone of importance to our meetings, and add variety and interest to their proceedings, has now no existence, or to write more correctly, is not put into practice.

The experience of all the societies established in London for scientific purposes within the last thirty years, shews that the introduction of a well conducted debate, after the reading of a paper, or the oral communication of curious and important facts, respecting which a general and instructive discussion may be expected to take place, serves to render the meetings more attractive, and to secure not only a more numerous attendance, but the attendance of members in general, who being complete masters of the subject likely to be discussed or commented upon, feel a desire and possess the ability of enlarging on the question under consideration, and of throwing light upon it. It can safely be asserted, that at none of the scientific meetings at which such discussions or scientific interlocutions have taken place, have the members present left the house without being much wiser, on some point or other, than they would have been, had they listened to the reading of a memoir only. The Royal Society of London, however, has hitherto chosen the opposite course; it has not only discouraged, but, by ambiguous statutes, endeavoured to damp any rising ambition of elo-

quence in the younger or more ardent of its fellows at the ordinary meetings. This negative practice, which is unquestionably not in accordance with the original intention of that chosen band to whom we are indebted for the foundation of our parent society, (as I have shewn in the 2d section,) seems, from the records, to have gradually been introduced to serve two purposes. The first, to prevent all troublesome and *inconvenient* interference on the part of any inquisitive "fellow" with the close corporate oligarchic mode, adopted "bit by bit," of conducting the affairs of the Society; and the second, to check any attempt to gainsay on the spot, and *instantly*, many of the odd doctrines, and still more singular statements, which were often made in the meeting-room, by men at the helm of affairs, who for many years monopolized all knowledge to themselves, and filled the volumes of our transactions with little else than their own day-dreams and lucubrations. But neither of these motives could have been said to have had existence during the last ten years previously to 1830, and one is left to conjecture what possible reason the president and councils of those days could have had for enforcing, as favourable to the negative side of the question, statutes which were, at most, but dubious on the subject of debate—and for checking all attempts at public speaking after the reading of the papers. Be that as it may, every well-wisher of the Society looked to the elevation of the Royal Duke to the chair, for better things. That Royal Personage was known to entertain feelings and principles in unison with the liberal movement which is taking place in society amongst the *moderates* of every rank, sect, and profession—HE was known to preside over more than one highly important and extensive association, at which freedom of discussion did not only exist, but received encouragement; through conviction that all such associations could only exist with it, and must perish without it. That a pre-

sident thus qualified would originate in the council, and prevail on them to adopt a distinct and well-defined measure on this point, was the general conviction of the fellows. The appearance, however, of the amended statutes which were issued a year after the Royal Duke's elevation, seemed to disappoint the expectation entertained on that question; and until the very day on which I am writing, those statutes were presumed to be more inimical even to the introduction of discussion at the ordinary meetings of the Society, than those previously in force. In the course of the second section of the present work, the reader will have seen how the older statutes had determined that point, (page 89, 90;) and by referring afterwards to the last or *amended* edition of them (1833,) under the head of "President's Duties," in Chap. VII., and of "the business at the ordinary meetings," in Chap. XI. he will notice the omission of all such technical expressions and phrases, as in the older statutes seemed to imply faculty and power to discuss any subject at the ordinary meetings, with the exception of such as relate to the statutes themselves, or the management of the Society. This omission, or silence on the part of the new statutes, was interpreted as an indirect, yet very effectual mode of suppressing all species of discussion whatever; for although the words, that "the President shall regulate all the debates of the Society," in Chap. VII. seemed encouraging in their meaning; those in Chap. XI., by which the business of the ordinary meetings is strictly "limited to the hearing of lectures, reading reports, and other papers, concerning philosophical matters," appeared, to most of the fellows, to be conclusive against any interpretation of the former expression being favourable to the subject of discussion. An event, however, has since taken place, not once, but twice, at the ordinary meetings of the society, which sets this matter in so different and so conclusive a point of view, that—even at the

risk of being accused of anachronism, in referring to what has taken place subsequently to the period, which alone I have embraced in the present statistical history of the Royal Society—I must give publicity to it, as forming the beginning of a striking Era in our Institution. On December the 10th, 1835, a motion was made, prefaced by a long introductory, and explanatory speech for a particular purpose, without any previous notice having been given that such motion would be brought forward, and the motion was carried. The Chairman decided that, agreeably to the present statutes, he was bound to receive such a motion, and put it from the chair. No debate ensued, because every body was taken by surprise, and the object of the motion, moreover, was one likely to meet with approbation. When this important fact came to my knowledge, I thought it so essential to establish its legitimacy beyond the power of cavil, that I put the question directly to the Chairman, four weeks after its occurrence, “Whether the proceedings of the 10th of December were or not irregular.” Nothing could be more explicit than the reply: he considered the proceeding at first, in his own mind, to be irregular, from the impression formerly received by the reading of the older or prohibitory statutes: but on referring to the new statutes, he had found no mention whatever made of a prohibitory clause against bringing forward motions with or without notice, and he therefore considered himself bound, and authorized, to receive all such motions, and he had so acted on the evening in question. In accordance with such an opinion, the same Chairman acted on the very evening on which I addressed him my question, when towards the latter part of the meeting of the Society, a second motion, of the same sort, applicable to another individual, but made by the same gentleman who had brought forward the first (so I understood it—for I was not present on the former occasion, and I know not even the



name of the proposer) the chairman, after hearing two speeches on the motion, and inviting others to state their observations, put the question from the chair, which was carried unanimously by ballot. The subject of the motion, and the name of the proposer of them, are nothing to the purpose in this place. It is sufficient to observe, that it did not trench on the only matters which the statutes rule should never be discussed at the ordinary meetings of the Society, and that, although not of a scientific nature, it was to the purpose, and quite to my purpose, also ; for it went, at once, to prove, that we may now safely consider the Royal Society on the same footing as all other scientific societies in London, where discussion may be carried on after the reading of the paper ; and that if, hereafter, such discussion do not take place, it will be the fellows' own fault. That the occurrences of the 10th of December, and of the 7th of January must be thus interpreted, is inevitable ; for, on the latter occasion, had any fellow present chosen to differ in the arguments used (very imprudently truly), by the proposer in support of his motion, and had he also chosen to give utterance, and with equal warmth, to his sentiments, in opposition to the motion, (a right which any fellow present possessed, according to the declaration from the chairman, when he stated that, unless any other fellow had any other observations to make on the motion, he should send it to the ballot) ; a very intense discussion might, and would, inevitably have taken place, which the opinion of the then presiding officer of the Society would have rendered perfectly legitimate.

It is gratifying to have to record this memorable event in the modern annals of the Royal Society—and still more pleasing it is to know, that the decision and interpretation of the Statutes, by which that event has been brought about, is due to one of the most eminent of the truly scientific and working fellows of the Society ; one of those to whom the

Society has long looked up to for salutary reforms—I mean its present treasurer—Mr. Francis Baily, the distinguished astronomer. It remains to be seen how the general council will act on such an emergency—and if it will confirm so favorable and so just an interpretation of the Statutes. Should it do so, then we may predict that the meetings of the Society will soon cease to be what they have been for a long time—dull, monotonous, and so thinly attended, that at the meeting of May 19th, 1831, the ballot of one of the candidates (Mr. Snow Harris) was put off to a subsequent meeting for want of the proper number which should constitute a *quorum* on such an occasion; and that, even on one of the two nights last alluded to, viz. the 7th of January, 1836, the proposer of the motion had the additional merit of making up the number of twenty-one fellows present, when he entered the room late in the evening, by virtue of which, alone, he was enabled to see his proposition put to the ballot and carried.

To be candid, however, on this subject; one cannot help expressing a doubt whether, if the practice of starting up at any time to make a motion à *propôs de bottes* on any matter, without that previous notice, which I believe is required in every public deliberative assembly in England, be admitted, as admitted it was on the two evenings alluded to—it may not be found, hereafter, rather *inconvenient*—and may not, indeed be made the ground for some new and more explicit “gagging bill.” The impression even of those most eager for the liberty of discussion at their meetings is—that if the practice, here more particularly referred to, receives no salutary modification, we shall find that we have, at last, “too much of a good thing.”

#### B. Topics which relate to Papers and Rewards.

4<sup>th</sup> Topic. Is the manner in which papers are now read

before the Society, and afterwards adjudged for publication or not—better, less defective, and more likely to encourage authors to come forward with their contributions to science ?

I shall not enter at large on this subject, after all the arguments I brought forward respecting its nature and merits in a previous section. My present observations must be confined to the alterations that have taken place since 1830, in the mode, previously deemed faulty, and unjust towards authors, of disposing of their written communications.

Soon after the election of the Royal Duke, the council named a committee to examine all papers presented to the Society, and determine on the propriety of their being read at the ordinary meetings. This was no new measure ; for such a committee had been in existence before, but had for some time remained inoperative. There is reason to believe, that this wholesome practice did not continue in force beyond December, 1831, as it appears that, in the succeeding month of January, 1832, a fresh resolution passed, declaring that the secretaries were authorized to refer to such *two* members of the council as they might consider most conversant with the subject, all such papers, of the propriety of reading of which they, the Secretaries, might feel doubtful; and thus determine whether the papers shall be read or not. Although this may be a more convenient arrangement than the working by committees ; it is certainly neither just, nor likely to encourage authors to send in many communications. This is a defect which clearly demands to be rectified, and which can only be so by the adoption of my plan of scientific classes in the Society.

I have already alluded to the introduction of the continental practice of referring papers which have been read, to persons eminent in the department of science of which the papers may treat—and which practice, I have shewn, in the Introduction, was successfully carried into operation on a few dis-

tinct occasions at the Society since the Duke's election. On referring to the *minutes* of the committee of papers, it appears that, for some time, and until the close of 1832—this plan continued to be acted upon in the case of every paper; and, although by the perusal of these meagre minutes, one can only collect to whom the various papers have been referred, it is still satisfactory to find, that the individuals appointed were invariably directed to make a *written* report—and that papers were never put to the ballot in the committee, on the question, whether they should be printed or not, without a memorandum being entered on the committee book, that the sub-committee, to whom the papers had been referred, had previously made a written report. The reports themselves in no ways appear in the said book of minutes, nor any hint given whether such reports were favorable or unfavorable, except from the inference drawn from the result of the ballot. Still, even with all these deficiencies in it, the inspection of that portion of the minutes' book, does much good to one who likes poetical justice to be fairly meted out to authors; especially when he contrasts it, with the previous portions of the same journal of the committee of papers, of which I gave so particular an account in the second section of this work, published four years ago, and in which one can only find the title of the papers entered—that of their authors—and the awful sentence on both, in large letters underneath, “to be printed” —“not to be printed”—“withdrawn”—or “archives.”

This ground of gratification, however, has, since 1833, been taken from us. Instead of a sub-committee of reporters on the papers read, we find too often a single individual named, to whom the paper was referred, without any direction for a written report—and, in fact, there is too much reason to believe that, at the present time, it is seldom that any report at all is made, even orally, with the exception, perhaps, of a few dictatorial and irresponsible words, decisive of the merits of the

paper and of its fate. Hence the minutes of the committee of papers for the last three years, present nothing better than the barren records which they presented before the Royal Duke's election. Thus then, the only one real and truly important improvement introduced in the manner of conducting the scientific business of the Society, has again, we may say, fallen to the ground. Nor, indeed, can it be otherwise, until the Society, being subdivided into scientific committees at the head of their respective classes of fellows, shall have proper and specific tribunals to which it may send its papers for adjudication—and thus, by a division, as well as an appropriate apportioning of labour, render easy that which is now unmanageable.

It would take me wide of my purpose, though strictly within my subject, were I now to offer an opinion respecting the choice which the committee of papers have occasionally made, of referees, who could not possibly understand the subject, or who, from the shortness of the time which they occupied in making the report, could not have made the necessary experiments to verify the assertions of the author of the paper which they had had under their consideration. One of the first consequences of this defect, in a system otherwise excellent, and which defect is not inherent to that system, but parasitic, is the probability of an erroneous decision being pronounced on the fitness or unfitness of a paper for publication in the Transactions. Thus, to mention only one example, a paper "on the structure of the human placenta," read at the Royal Society in Dec. 1831, in which an attempt was made, (some years after the very same attempt had been made and published in France) to prove that the placenta differed in its structure from the description given of it by Hunter, was referred to two physiologists and a surgeon, who I will be bold to say had not the least opportunity of verifying the statements of the writer by actual dissection (the course the

most proper to be followed), and who, nevertheless, must have sent in a written report of a favourable nature, since the paper itself was afterwards published in the Philosophical Transactions. Well, and what were the consequences which followed so imperfect a mode of proceeding? They were these; the principal assertions comprised in that paper, were shortly after proved, by myself,—*first*, to have been anticipated by a French anatomist of the University of Strasburg, whose original French I placed, for that purpose, in juxtaposition with the corresponding passages in the English memoir;\* and, *2ndly*, to be completely erroneous.† This exposition of the fallacy of the views contained in that paper, was still farther strengthened by an admirable essay from Dr. H. Ley,‡ (a gentleman whose name, by the bye, ought certainly to be on the list of fellows, if merit and not money decided this question), in which a minute description of a recent placenta, injected and examined by several competent judges, was given, disproving the asserted facts of the French and Scotch authors, and supporting Hunter's views. *Lastly*, two eminent surgeons, Messrs. Stanley and Mayo, both fellows of the Royal Society, having examined the Hunterian preparations in their own college, as to certain alleged conditions on which the Scotch author had grounded his conclusion against the anatomical accuracy of the greatest physiologist of this country, declared that the author in question had inaccurately described those preparations, which they therefore proclaimed to be still, as hitherto, irrefragable proofs of the science, skill, and precision of those physiologists. The Transactions therefore, present a paper on the subject of which the author had been long before anticipated in

\* Lancet, March, 1833.

† Prolegomena of the Development and Metamorphoses of the Human Ovum. By Dr. Granville, 1833. 4to. Plates.

‡ Medical Gazette, 1833.

all his statements but one, and the doctrine of which is proved and admitted to be incorrect. Other similar examples might be quoted in illustration of the position with which I set out; but this one is so glaring that it will suffice for all. I will venture to assert that, if such a paper had been presented to the Institute of France or to the Royal Academy of Medicine of Paris, no such result, humiliating to the penetration of the scientific body, who are a party to it, would have taken place. There, a committee would have been named of persons capable and willing to enter into a practical investigation of the subject. The preparations referred to would have been sent for and examined—the author would have <sup>been</sup> asked to perform *himself some experiment and exhibit some placenta prepared by himself* to prove the accuracy of his views, (a process which the author of the paper in question, by the bye, has never exhibited *proofs* of having followed,) and the contrary statements would have been opposed to him, which went to overthrow his views. The conclusion of such an enquiry would have been—a recommendation of the reporters, that the paper did not deserve the honour of publication; the more so as, by a *reclamation* from Professor Lauth, the originality of those views would undoubtedly have been disputed.

There is another subject on which I must say a few words before I conclude this subdivision of the present section. It is the hardship, for I can call it by no other name, to which those authors are subjected, whose papers have been rejected or ordered not to be printed, which amounts to the same thing. These papers are placed in the archives of the Society, and the author can never again get back the original; although, by application, he will be allowed to take copies at his own expense. Now, without entering into the question whether it be right or wrong that the Society should retain possession of what it considers unworthy of being made pub-

lie through its channel, I must say that the expense of taking copies of it, if so detained, when required by the author, should be borne by the Society. This hardship is even more serious to those authors whose papers are illustrated by expensive drawings, and which are likewise retained by the Society, though it rejects them as part of its Transactions. Thus, in the case of Mr. Howship, who, in the year 1814, had read a paper before the Royal Society on the formation of bones, illustrated with those exquisitely coloured drawings, which the pencil of Mr. Howship knows so well how to finish, but whose paper was not honoured with publication in the Transactions—when an application was made by him to have the drawings back, in 1833, (that is 19 years after the paper had been read), the only concession he could obtain was a permission to borrow the drawings if he wished to copy them, a task sooner directed than executed, and certainly not executed without labour, waste of time, and expense. Yet, buried in the archives of the Society, of what use can those drawings be? I do not blame the council for these apparently harsh measures, for if the members of it find the *lex scripta* to be imperative on these points, they must follow it—but the fellows have a right to expect from the present men in power, that such a *lex scripta* should no longer be suffered to affect the credit of the Society. It is a conviction of my mind, that defects of this sort have only to be pointed out, to be certain of being presently removed. I have myself suffered, though insignificantly, from the system as it now stands, in respect to the two, out of five papers, I read before the Royal Society in 1818 and 1827, which were ordered to be “deposited in the archives,” (thus ran the decision of the committee of papers). Wishing after a time to have a copy of them, I was compelled to employ an amanuensis, at my own expense, to enable me to give them



publicity—the one in the London Medical and Physical Journal for 1822—the other in the Quarterly Journal of Science of the Royal Institution, in 1827.

It is but justice, on the other hand, to state that the council have invariably acted with the greatest liberality, in allowing to authors the use of the plates belonging to their respective papers, which they may require at any subsequent period—plates which often cost vast sums of money to the Society.

As a complement to the analytical and numerical table of all the papers read before the Royal Society in the first thirty years of the present century, I must now offer a second, embracing the subsequent period of five years, up to the present time.

*Analytical and Numerical Table of all the Papers read between the 18th of Nov. 1830, and the Anniversary Meeting, 1835, being a period of five years, distinguishing those that have been honoured with a place in the Transactions, and those that have been excluded.*

Denomination of the Classes of Papers.		Total Read.	Total Admitted.	Total Rejected.
1	Higher Mathematics - - - -	8	6	2
2	Algebra - - - - -	1	1	0
3	Geometry and Geodesy - - - -	2	1	1
4	Hydrodynamics - - - - -	9	7	2
5	Astronomy - - - - -	38	28	10
6	Mechanics (including Naval Architecture)	8	2	6
7	{ Experimental Philosophy, including Optics Dynamics, Barom. and Thermom. and Pendulum Operations, Electricity, Mag- netism, &c. - - - - - }	76	45	31
8	Chemistry - - - - -	15	9	6
9	{ Mineralogy, Geology, Metallurgy, and Fossilology - - - - - }	9	5	4
10	Natural History and Physical Geography	18	14	4
11	Anatomy - - - - -	7	3	4
12	Physiology - - - - -	29	13	16
13	Vegetable Physiology - - - - -	0	0	0
14	Medicine - - - - -	2	0	2
15	Surgery - - - - -	1	0	1
Total - - -		223	134	89

Not fewer than 81 of these papers were written by strangers, eleven of whom became afterwards "fellows," although, in the case of five of them, the papers which they had contributed were ordered "not to be printed." Besides the eleven, three more are likely soon to be admitted into the bosom of the Society. Surely, Airy and Rowan Hamilton ought long ago to have been seated in it by the spontaneous act of the Society, in which should reside the power of bestowing such a distinction on any man so highly and fully deserving of it, as the two truly eminent mathematicians in question are. More especially in regard to the first of them, whom the council have more than once commissioned to perform some scientific service of importance to the Society.

The inspection of this and the previous analytical table of papers suggests a few curious observations. In estimating the value of the services which a body of men, assembled together for the sole purpose of advancing "natural knowledge," may have rendered to science, it is impossible not to be struck with the peculiar direction which their inquiries will take, from time to time, as evinced by the aggregate number of their observations, propositions, experiments and discoveries, when properly classed and analyzed. If this be true in general, it is still more so in the particular case before us; namely, the case of those fellows of the Royal Society, who, since its foundation, have, through its channel of communication with the public, or with their co-fellows only, manifested their individual bias for particular branches of science—thus marking, as it were, the direction which the current of scientific inquiry took in their time. Looking then to the different subjects treated of in the Philosophical Transactions—and, what is still more likely to give accurate results, considering the subjects of *all* the papers read before the Royal Society, in this light, we shall be able to form an

approximating estimate of the particular train of scientific doctrines, or investigations which has been the most predominant amongst the philosophers of this country, in the course of a given number of years.

My researches and examination of all the papers read since 1800, whether adopted or rejected by the Society, (for which I claim only the humble merit of industry,) enable me to furnish the reader with two tables, corresponding to as many periods, during which the direction of the current of scientific inquiry is distinctly marked—and if we adopt, from Dr. Thomson's valuable History of the Royal Society, his recapitulation and classification of the number of papers contained in the Philosophical Transactions, from their commencement down to the year 1800, and link his results with my own, beginning from the latter year down to the present period, we shall have an uninterrupted chain of evidence, shewing that many of the most important branches of science have, in their turn, been in the ascendant. This curious investigation might be made much more complete by a subdivision (into smaller epochs) of the period embraced by Dr. Thomson's recapitulation, which extends to no less than one hundred and thirty-five years, and to a mass of information contained in 90 volumes. But the time for such an operation fails me, and I must be satisfied with using the materials, as I have them ready at hand.

A. In the last 35 years of the 17th century the Royal Society published . . . . .	21 vols.
B. In the 18th century it published . . . . .	69 vols.
C. In the first 35 years of the 19th century, it published . . . . .	35 vols.
<hr/>	
Total, 125 vols.	

The papers printed during the periods A. and B. were . . . .	4,166 *	Rejected.
Those printed during the first 30 years of period C. were . . .	732	and 244
Those printed during the last five years of period C. were . . .	134	and 89
	<hr/>	<hr/>
	Totals, 5,032	333

In my analytical and numerical Table of the papers read before the Royal Society, in the course of the first thirty years of the present century, (page 59,) I classed them according to their prominent subjects; and, with a view of avoiding too minute an arrangement, I placed in the same class more subjects than one, whenever they could be associated together, either from analogy or relationship. In this way, I established 15 classes of prominent scientific pursuits, for the denomination of which, I must refer to the Table in question; higher mathematics being there considered as Class 1. Classing, in this manner, the papers quoted by Dr. Thomson, read and printed during the periods A. and B.,† and arranging them according to their numerical value, we find the current of scientific investigation to have run thus:

\* It does not appear that Dr. Thomson ever entered into the inquiry of the number of papers rejected, during the long period which his history embraces. The investigation is sufficiently curious, and might tempt a person with fewer other occupations than I have. The archives of the Society, I believe, would afford, though with much labour, the proper materials for the inquiry, during which, who knows, but it might be discovered that some of Newton's first papers were rejected—just as I have shewn, at page 57, that even the announcement of the discovery of the planet Ceres was repeatedly excluded from the Transactions in our own times!

† The periods A. and B. extend from 1665, when the first number of the Philosophical Transactions was published, to the year 1800.

<i>Classes.</i>	<i>No. of Papers printed.</i>	<i>Classes.</i>	<i>No. of Papers printed.</i>
Class 7th.....	778	Class 13th.....	233
— 8th.....	493	— 12th.....	220
— 14th & 15th.....	478	— 1st, 2nd, 3rd.....	208
— 10th.....	447	— 11th.....	131
— 5th.....	416	— 4th.....	120
— 9th.....	316	— 6th.....	99

Dr. Thomson has added to the above number of papers, which he has more minutely subdivided into classes than I have, 225 other memoirs, on what he calls "Political Arithmetic," (Statistics I imagine,) "Antiquities," and "miscellaneous subjects." With these we have nothing to do. Here, then, we find all subjects of experimental philosophy, including electricity and magnetism, on the former of which, there are not fewer than 211 papers, and 71 on the latter, taking the lead. We find chemistry, and the medical sciences, next in importance, followed closely by natural history and astronomy. The investigations of vegetable and mineral nature, appear also to have been somewhat numerous; but in mathematics, in hydrodynamics, and mechanics, the labourers seem, indeed, to have been few; for what are two hundred and eight memoirs on the first of these subjects, for a period of one hundred and thirty-five years?—giving an average of little more than one mathematical paper in each year! But the English had ceased, as it were, to be a mathematical nation, about the middle of the 18th century, and it is to the French and Italian academies that we must look for a true display of those higher triumphs of the human understanding, which seemed to have been exhausted in England in the admirable works and discoveries of Napier, Wallis, Barrow, Newton, Halley, and Brook Taylor. Finally, we may observe, that anatomy and physiology have engaged only a moderate degree of attention.

Passing now to the consideration of the first 30 years of period C., the current of scientific investigation is found to have somewhat changed its course, when we consider the subjects of the several papers read during that time. Taking

the analytical and numerical Table, already referred to (page 59,) as our guide, the spirit of inquiry appears to have taken the following direction :—

<i>Classes.</i>	<i>No. of Papers read.</i>	<i>Classes.</i>	<i>No. of Papers read.</i>
Class 7th .....	214	Class 6th .....	39
— 8th .....	162	— 13th .....	28
— 5th .....	130	— 14th .....	21
— 10th .....	89	— 4th .....	16
— 12th .....	82	— 3rd .....	15
— 11th .....	61	— 15th .....	13
— 9th .....	58	— 2nd .....	5
— 1st .....	43		

The lead is again held by experimental philosophy in this period, and chemistry keeps its station, while astronomy has advanced three steps—and the investigation into organized animal beings and their function have occupied the second rank. Vegetable physiology is declining rapidly—the medical sciences are at a low ebb—and we find, once more, the higher and mixed mathematics lowest in the scale.

If we next turn our attention to the analytical table, I have given in this Section, of the papers read during the last five years, we shall find the current of scientific investigation, (adopting the same plan of numerical estimation) to have proceeded somewhat differently since the reform of 1830; as thus:

<i>Classes.</i>	<i>No. of papers read.</i>	<i>Classes.</i>	<i>No. of papers read.</i>
Class 7th .....	76	Class 6th and 1st.....	8 each
— 5th .....	38	— 11th.....	7
— 12th .....	29	— 3d and 14th.....	2 each
— 10th .....	18	— 2d and 15th.....	1 each
— 8th .....	15	— 13th.....	Zero
— 9th and 4th ....	9 each		

Here the experimental philosophers lead still, the astronomers have placed themselves close up to them, while the physiologists have advanced a step by the falling off of natural history, and the low rank which chemistry has taken in the competition. Geology feels the effect of the very successful exertions of the Society, especially instituted for its cultivation—and medicine and surgery are nearly proscribed from

the Royal Society. Vegetable physiology, which before the new ACCESSION, was still cherished within our walls, though not to the extent it had been during the periods A. and B.—has never made its appearance, since, at the table of the Royal Society: and it must, for the third time, be admitted, that our “fellows” do not appear conspicuously in any of the other classes of scientific pursuit, such as transcendant mathematics, geometry, mechanics, and hydrodynamics.

In order to complete the information on the subject of scientific contributions to the Society—it is right that I should here produce the list of those fellows, whose names appeared in my former publication, and are again reprinted in the present one—and who have, either contributed papers since 1830, *in addition* to those they had contributed before that period, which were marked in my previous catalogue, or who have *only since that time*, presented papers which have been printed in the Philosophical Transactions. In this manner, I hope, I shall have discharged, faithfully and impartially, my duty as chronicler of all the successive efforts made by the several fellows, in support of the name and character of the Society to which they belong.

TABLE

*Of Fellows, alphabetically arranged, who were on the list in 1830, and who have contributed papers since that time.—(See Tables I. to IX. Sect. I.)*

7	Peter Barlow	1	Robert Lee, M.D.....	15
1	F. Baily	1	Charles Lyell	
3	Sir Charles Bell	1	Woodbine Parish	
4	Sir David Brewster, Knt.	4	A. P. W. Philip, M.D.	
2	S. H. Christie.....	2	J. Pond	
2	J. F. Daniel	2	Rev. Baden Powell .....	20
6	J. Davy, M.D.	1	George Rennie	
1	Ed. Davy	1	Commander J. Ross, R.N.	
3	C. Daubeney, M.P.	1	Capt. Sabine	
11	M. Faraday.....	1	Capt. Wm. Smyth, R.N.	
1	Rev. G. Fisher	2	Sir James South, Knt.....	25
2	Davies Gilbert	1	A. Ure, M.D.	
1	Sir J. F. Herschell	3	Rev. W. Whewell	
5	James Ivory	1	J. Yellowly, M.D.....	28

From this table, then, it appears that more than the half

of the last five volumes of the Royal Transactions is the production of old members. This is as it should be.

*5th Topic.* Has there been any improvement introduced into the department of honorary rewards, and other distinctions in the gift of the Society?

We can answer at once, and I think most triumphantly, in the affirmative on this subject. The reform for the better is complete—and the whole merit belongs to the Royal President, and the successive councils who have acted with him. Not only have the honorary rewards and the lectures been placed on a very different footing from that on which they were previously to 1830, as described in my first section, written at that time (see p. 59 to 74); but their adjudication, also, has been equally, and even more, judicious and appropriate.

The first step which the council, with the Royal Duke at their head, took in this matter, immediately after their election, was to appoint a committee to consider of the regulations, both written and practically followed, under which the honorary rewards of the Society had been awarded; and to report to the president and council the fittest modes, according to their judgment, of conferring those rewards in future. That committee made their report to the council on the 24th of October, 1831, from which resulted, besides other very just and proper measures, that very interesting publication to which I alluded in another part of this work, by Mr. Hudson, their assistant secretary, and which every fellow had an opportunity of perusing, as it was freely and liberally circulated among them by order of the council. The subject was one fraught with so much interest, and so important, moreover, was it, to the credit and character of the Society, that the Royal President could not but see the necessity of taking it up boldly, and at once, without any farther suggestion.



It is impossible to discuss such a subject without reverting to the work of Mr. Babbage, so often commented upon. That gentleman complained, in his *exposé* of the Royal Society, that the awards of medals, and the appropriation of lectures, were often irregular, unjust, and not creditable to the judgment and impartiality of the council (see *op. cit.* Sect. 7, 8, 9, 10). In my contemporary publication to that of Mr. Babbage, I proved, in opposition, from the list of names of those persons who had received honorary distinctions, that there was scarcely one among them who did not stand high in the estimation of the scientific world, and who could be said not to have deserved the medals he received. At the same time I guarded myself from defending the council upon any of the other charges relative to this subject, which Mr. Babbage brought forward. I fear they were generally too true; but it is only justice to subsequent councils to state that, with scarcely any exception, they seem (judging from the minutes of their proceedings) to have acted, with every honest intention, and a desire to benefit science, and not their friends, in assigning the honorary rewards which were placed at their disposal.

I shall here give a list of such awards as have been made since 1829, forming a complementary addition to the table of the distribution of medals, which I was the first to draw up from original documents, picked out, at considerable trouble, from the records in the Royal Society (embracing a period of thirty years), and printed on a former occasion (see page 62, 3, 4, 5, *et passim*). It appears, that the same idea had suggested itself, in the same year, to Mr. Babbage—but he wished to employ an amanuensis to perform the laborious task—and he complains that, on making application to the council for permission to that effect, he was unceremoniously denied the request. It cannot be doubted for a moment, that the council, in that instance, acted with perfect discretion. The ope-

ration which Mr. Babbage wished to transfer to an amanuensis, required the inspection of several volumes of records which contain a multitude of other matters concerning the affairs of the Society—and would it have been proper that a stranger should be permitted to dive into, and peruse, all such questions, in order to extract from them whatever suited the object of his commission? Mr. Babbage's own good sense must, ere this, have suggested to him the impropriety of such a proceeding. However that may be, the public were not many months deprived of the opportunity of perusing the information which Mr. Babbage could not give—and I rejoice that the example I afforded was afterwards followed, on a larger scale, by order of the council.

Much of what is contained in the preceding observations apply, likewise, to the lectures, respecting which, I must again refer the reader to the second section of the present volume, and to the additional memorandums, which I have recorded in this place, of all subsequent information since the year 1830.

The reforms introduced into this department of honorary rewards, were well and properly intimated by the Royal President, in his anniversary address of 1833.

“I feel myself justified in expressing my opinion, that the power possessed by your council, of conferring honorary rewards, is a salutary power, provided it be exercised, *boldly, impartially, and diligently* ;” and, accordingly, we find, from the results of the council's deliberations on this point, that several judicious and proper measures were adopted with regard to the awards of the various medals, and the disposal of the Croonian, Bakerian, and Fairchild lectures ; an abstract of which deliberations may prove interesting to those readers who have not leisure or opportunity to consult the journal books of the Society for the latest information, or who may not be in possession of Mr. Hudson's Report.

**COPLEY MEDAL.**—1st. In future, (by a minute of council, Oct. 24, 1831,) this medal will be awarded for such philosophical research, published or communicated to the Society, as may appear to the council deserving of that honour.—2ndly and 3rdly. No limitation, either as to the subject of the research, or to the time of it, or to the country of its author, shall be made—but the subject of the research awarded shall be specified by the council, when the award is made.—4thly, 5thly and 6thly. No member of the council shall be eligible for the medal while in office; it may be given, as formerly, more than once to the same person, and is still, as far as circumstances will admit, to be awarded annually. Persons in future to be proposed at one of the meetings of the council in October, and the award to be made only in November—the medal to be awarded by ballot. By a subsequent minute (Nov. 6, 1834), the nomination of candidates for this medal may take place at any of the meetings of the council. The award to be published with the Philosophical Transactions.

**RUMFORD MEDAL.**—The same rule with regard to the nomination of the candidate, and the time of award for this medal has been adopted, as in the case of the Copley medal. But, as I stated in the second section, the conditions of the foundation of this medal are, that it shall be awarded biennially—and that, if any lapse of years occurs without such award, then the next successful candidate, proposed for it, shall have the interest which has accrued on the original funded capital, from the time of the last adjudication of the medal. This renders it, in good truth, the richest honorary reward in the gift of the Royal Society. For the medals being two, the one of silver, the other of gold, a fac-simile of each other, for which the Rumford Fund has for some years past paid the sum of 60*l.* to Mr. Wyon, the Mint engraver; if money be added to it from accumulated interest, the guerdon must prove not only honourable, but substantial, to the candidate. In the case of the last three candidates to whom this medal has been awarded, the names of which will be found below, the respective sums of 58*l.*, 67*l.* 9*s.* 6*d.*, and 69*l.* 13*s.* 4*d.*, were paid to them on the occasion of their receiving the medal. The reader is aware that this medal is, by the founder's intention, limited to new

discoveries, tending to improve the theories of fire, heat, and light, and to inventions and contrivances, whether physical, chemical, or mechanical, connected with those subjects, which may either extend the domain of science, or tend to increase the enjoyment and comforts of life, particularly in the lower classes of society. Of the ten awards which have taken place since 1800, two only were made on account of the latter, and more useful conditions—namely, to Mr. Murdoch, for his introduction of illumination by means of coal gas—and to Sir H. Davy, for his invention of the safety lamp, and the theory on which it is based. The other awards have been for theoretical and philosophical papers. As the sum may, by lapse of adjudication, in the space of five years, become large enough to recompense any industrious person for undertaking experiments which shall lead to real practical and useful results, calculated to enlarge the comforts of the poor—particularly in regard to fuel—the warming of houses—and the preparation of food—would it not be well if the council were to propose to reward, with the accumulated interest of that period and the medals, any such invention or contrivance, as shall benefit the public, who would thereby learn that the body of philosophers, calling themselves the Royal Society of London, are practical, as well as speculative men, anxious to apply the resources of science to the good of mankind?

**THE ROYAL MEDALS.**—The original foundation of these medals, of which two are to be distributed annually, I have shewn, in another place, to be due to His late Majesty. They are of the value of fifty guineas each, and like, the Rumford medal, are given in silver as well as gold. The object and conditions of their adjudication were stated in a former section. At first it was ruled that the medals should be bestowed on the author of the most important discovery or series of investigations, completed and made known to the Royal Society in the year preceding the day of the award—but this limitation having been found inconvenient, the period was extended to five years—and, under such an arrangement, awards of both medals were made for the years 1826, 27, 28, 29 and 30, the first four of which will be found in my table (pages 64, 65), as well as in that subae-

quently published by Mr. Hudson, by order of the council; the award of last year I have inserted in the table which will follow these remarks. "But although the adjudication (I take the liberty of quoting H. R. H. the president's own statements on this subject) of ten medals had been formally made and announced from the chair of the Royal Society, not even the dies, much less the medals, were forthcoming for the purpose of distribution to the various distinguished persons, some of them foreigners, to whom they had been awarded." This circumstance induced the Royal President, when he succeeded to the chair of the Society, to recommend to the council the suspension of any farther adjudgment of the medal, until he had an opportunity of inquiring into the whole question, as it affected the past, or might affect any future operation in this matter. The inquiry terminated in the most satisfactory manner. The fulfilment of every pledge which had been given to the Royal Society, and to the public generally, in the name of George the Fourth, was completed; and the medals, bearing on the "one side the likeness of His late Majesty, and on the reverse, the representation of the celebrated statue of Newton which is placed in the Chapel of Trinity College, Cambridge, with emblematical accompaniments," were declared, at the Anniversary Meeting of 1833, to be ready for distribution. No doubt that the influence of the Royal President, in this delicate question, had the effect of promptly bringing it to a favourable issue; and in this we see one of the grounds on which a partiality for a President of such eminent station in the realm, was manifested by those who brought about the change of 1830. But H. R. H. did not stop here. Having disposed satisfactorily of the first difficulties, he now applied to His present Majesty for a continuance of the annual grant of the two gold medals; and obtained, at once, the prayer of his petition from the king, who ordered, in consequence, that a fresh die should be cut, and that his effigy should form the obverse of the medal. This work also was completed in 1833, and the awards were resumed in that year, and have continued since, under certain conditions, which were contained in a letter from Sir H. Taylor, dated Windsor Castle, March the 25th, 1833, communicating to the Duke of Sussex the King's wishes on the subject of the royal medals. This letter is

placed at the head of the recent volumes of the Philosophical Transactions—as well as the several regulations adopted, in consequence of it, by the president and council; and require, therefore, no farther allusion in this place. One observation, however, I must allow myself the gratification of making, and that is, that throughout the several transactions connected with the original foundation and subsequent revival of these royal symbols of approbation to men of science, it is impossible not to be struck with the lofty sentiments which first gave rise to, and afterwards brought to maturity, and completed this institution of honorary premiums placed at the disposal of the Royal Society—or with the sound judgment, marked impartiality—and apt discrimination, by which the distribution has been hitherto effected. The spirit of liberality which pervades the King's letter, is not the least striking feature of this memorable Era in the history of the Royal Society.

## TABLE

*Of the Awards of the Copley, Rumford, and Royal Medals, since 1829.*

COPLEYAN MEDAL.	RUMFORDIAN MEDAL.	ROYAL MEDALS.
1830 Not awarded.	Not awarded.	To Sir D. BREWSTER, for his Papers on the Polarization of Light. To Mons. BALARD, of Montpellier, for his discovery of Brome.
1831 To Professor G. B. AIRY, Cambridge, for his various researches in Optics.	Not awarded.	Suspended.
1832 Two medals were awarded this year, one to Professor FARADAY, for his discovery of Magneto-Electricity. Another to Baron DENIS POISSON, of Paris, for his new Theory of Capillary Action.	To Professor J. F. DANIELL, of King's College, for his Paper on a new Register Pyrometer, &c., and £67. 9s. 6d. in money.	Suspended.
1833 Not awarded.	Not awarded.	To Professor DECAN-DOLLE, for his researches in Vegetable Physiology. To Sir J. F. HERSCHELL, for his Investigation of the Orbits of Revolving Stars.

- |  |  |   |
|--|--|---|
| 1834 To Professor PLANA, of Turin, for his work, intitled "Theorie du Mouvement de la Lune." | Not awarded.   | To J. W. LUBBOCK, on Physics.<br>To CHARLES LYELL, on Mineralogy and Geology.   |
| 1835 To W. S. HARRIS, for his Inquiry into the Force of Electricity.                         | To Signor MELLONI, for his Experiments on Light and Colours, and £69. 13s. 4d. in money. | To MICHAEL FARADAY, for his Paper on Electricity.<br>To Sir W. ROWAN HAMILTON, for his Two Mathematical Papers in the Transactions. |

On the subject of the Croonian and Bakerian lectures, the only observations I have to make, in addition to what I detailed on a former occasion, (see the Table in Sect. 1st.) are that, with regard to the first, the council, by a minute of November 3, 1831, after taking the opinion of the solicitor of the Society, came to the resolution, not to make any farther appointment for the Croonian lecture, but to authorize the treasurer to pay henceforward, to the poor of the parish, the sum received, in conformity with the terms of the bequest; which resolution has been carried into effect. We may safely smile, when we look back at the long list of these lectures, delivered annually, ever since 1738, with a reward, arising out of "*one fifth of the clear rent of the King's Head Tavern, in or near Old Fish-street,*" which produces £3. per annum, and is paid over to the Royal Society by the College of Physicians, who enjoy the other 4-5ths of the said rent—amounting altogether to £15, for a term of 99 years, from 1786. This lecture has been all along unjustly called *Croonian*, instead of *Sadleirian*; it having been founded by the widow of that physician, Lady Sadleir. The nature and conditions, too, of the lecture, have been mistaken, and instead of regarding it as having been established by Lady Sadleir's will, "for promoting the general objects of the Society," it was deemed founded especially and solely for investigating the subject of muscular motion, on which, ac-

cordingly, the Philosophical Transactions contain, perhaps, more rhapsodies than truths, and few sound doctrines. The council did well to suppress this farce. Requiescat !

With regard to the second, or Bakerian lecture, all that has been done since the publication of my previous information on this subject in 1830, has been to order, that at the first meeting of the Committee of Papers held in each year, some one paper, then in the hands of the Secretaries, and intended to be read to the Society, shall be selected as the Bakerian lecture for that year. In accordance with this regulation, the Bakerian lecture was assigned, in 1832, to Professor Faraday—in 1833, to Mr. S. H. Christie, both of whose papers were on electricity—none was assigned in 1834—and in 1835, to Charles Lyell, on a geological subject.

The third, or the Fairchild Lecture, or sermon, in the gift of the Society, continues to be delivered by the same reverend gentleman whom I mentioned in the first table of lectures, published in 1830.

There is another source of pecuniary encouragement to scientific men, placed at the disposal of the Royal Society, which must not be passed unnoticed. I mean what has been called "the Donation Fund," by the special direction of its founder, the late Dr. Wollaston. As this fund came into operation after the appearance of my previous publication on the Royal Society, I shall, in this place, briefly state the particulars of its origin and operations.

The Donation Fund was instituted by a testamentary gift of Dr. Wollaston, on the 1st of Dec., 1828, beginning with the capital of £2000. Consols, which, by farther donations from other patrons of science, among whom stands conspicuous Mr. D. Gilbert, who gave £1000. and the investments of interest accrued on both the original fund "after Wollaston's death," and on the additional subscription—amounted, on the 4th of June, 1835, to £3,820. 19s. 3d. funded property, and a



balance in hand of £205. 19s. 1d. The management of this fund is vested in a committee called the "Donation Fund Committee," consisting of the donors, the president, treasurer, and secretaries, of the Royal Society. Wollaston's directions were, that the dividends should be applied, from time to time, in promoting experimental researches, and in rewarding those by whom such researches may be made:—or in such other manner as shall appear to the president and council, for the time being, most conducive to the interest of the Society, or the promotion of science in general. No person can receive a reward out of this fund who is, at the time, a member of the council—and individuals of all countries are equally intitled to the benefit of its intention. Dr. Wollaston enjoins the president and council not to hoard up the dividends, but "to expend them liberally," and, as near as possible, annually, in furtherance of the declared object of the trust.

We may now proceed to examine in what manner the president and council have attended to, and fulfilled, the directions of the founder.

In the first year, namely, 1829, they expended the sum of £16. 2s. 9d. for a "variation instrument," manufactured by Jones, the Optician, for the use of Mr. Farquharson. In 1830, 31, and 32, they do nothing in the way of "expending liberally," but do "hoard up" the dividends. In 1833, they contribute £113. 12s. towards the Arctic Land Expedition of Captain Back. In 1834, they purchase one of Burengeigen's best barometers, from Professor Schumacher, for £48. 5s. 2d., and order a standard barometer from Mr. Newman of Regent-street, for £32. 7s.; while, in the last year (1835), after disposing of several letters of application, received by the committee (as stated in the committee-book of the council of June), for some of the good things of this fund; they decide on giving £100. towards the construction of an Heliostat, by Dollond, under the direction of Sir David Brewster—and

the half of that sum to Professor Wheastone, for carrying on certain experiments, subject to the approbation of the Rev. G. Peacock, the Rev. W. Whewell, and Dr. Roget.

At present, therefore, the managers of the donation fund, cannot boast of having "rewarded those by whom experimental researches have been made," but they have purchased instruments, and presented money to certain individuals, with a view "to promote experimental researches hereafter." I suppose that "*le reste viendra.*" Speaking seriously, however, the managers of this fund have a delicate responsibility at their door, and the eyes of the scientific world will be upon them for years to come. The intention of the founder should be made extensively public, and the knowledge of the fact, that such pecuniary means are ready in the hands of the Royal Society, for the assistance of ingenious, able, and original minds, in the pursuit of discoveries, which require experiments demanding money for their execution, where money probably is wanting—may, and will, indeed, at some future period, bring such discoveries before the Royal Society, as shall reflect credit on science and scientific men. I am glad that, as far as the limited circulation of the present work can accomplish such an object, the statement I have entered into may serve partially the purpose in question. I cannot dismiss this subject without expressing a degree of regret, that the pressure on the general funds of the Society should have rendered necessary a minute of the council of April 10, 1834, which authorises the application of the dividends of the Donation Fund to its relief.

Mr. Babbage objects to the same medal or reward being given—to the common observer of facts—and to the discoverer of new principles—or to him who detects the undiscovered laws by which Nature operates. Thus, I suppose, he would not have Sir James South receive the Copley medal (1826), for having observed 458 double and triple stars—if

the same medal is to be considered a sufficient reward to Professor Plana, of Turin (1834), for that most extraordinary and marvellous example of astronomical genius, labour, and skill, bearing the title of "*Theorie du Mouvement de la Lune*"—in 4 large folio volumes, in which some of the most abstruse and difficult questions of physical astronomy, leading to very important applications, are largely discussed, and successfully developed. Nor would Mr. Babbage, perhaps, consent to adjudge the same honorary reward to Captain Sabine (1821), for having observed the pendulum in the Arctic Regions, which was deemed a sufficient honorary distinction (1820) to the Danish Philosopher, for discovering Electro-Magnetism. In a parallel of merit, thus contrasted, there is some show of truth and correctness; but it might be urged in answer,—that, generally speaking, it is the laborious assiduity of the faithful and honest *observer* of Nature's accidents and facts, which enables the *discoverer* to bring into play his superior philosophical sagacity, whereby he establishes the laws by which those facts are governed: and that, therefore, without the more humble cultivator of science—the philosopher would frequently stand in need of materials for reasoning and making discoveries.

A much more favorable objection might be made to the adjudication of several and different medals to the same individual, and for the same individual subject of merit—as has been the case, for example, with regard to Sir David Brewster, who in 1815 received the Copley medal, in 1818 the Rumford medal, and in 1830, the Royal medal, for his "*Researches on the Polarization of Light.*"

### C. *Whatever concerns the Treasurer.*

6<sup>th</sup> Topic. Are the financial concerns of the Society on a

better footing than they were previous to 1830, and better conducted?

Before the great Movement of 1830, I said, "let a distinct balance-sheet be printed and circulated among the members at the annual election." On the 9th of December, 1830, a few days after the success of that movement, the council resolved, "that the Financial Report be printed and distributed to the fellows." The change of President, then, and his councillors, produced this salutary reform—which has since been rendered permanent by the new statutes, and has been acted upon with scrupulous regularity. Thus, far, therefore, the general principle of publicity in the minutes and details of the Financial Department of the Society, which were formerly kept a profound mystery, has been, at last, adopted by its rulers, who have since 1830, inclusive, expended TWENTY-TWO THOUSAND, one hundred and forty pounds, ten shillings and sevenpence halfpenny—as the following table will exhibit to my readers.

*Net Receipts and Expenditure of the Royal Society, from November, 1829, to November, 1835.*

RECEIPTS.			EXPENDITURE.		
	£.	s. d.		£.	s. d.
To Nov. 1830.....	3592	6 6	To Nov. 1830.....	3470	6 3½
— 1831.....	4081	16 5	— 1831.....	3428	8 10
— 1832.....	4476	15 11	— 1832.....	4715	7 7
— 1833.....	4424	15 8	— 1833.....	4418	2 7½
— 1834.....	3014	2 8	— 1834.....	3365	4 4½
— 1835.....	2768	17 1	— 1835.....	2743	0 11
			6 years .....	£22,140	10 7½
			Leaving in the hands		
			of the Treasurer a		
			Balance of .....	218	3 7½
6 years .....	£22,358	14 3		£22,358	14 3

Although the principle of publicity recommended to the president and council has been, by them, acted upon; I must not omit remarking, that this measure of improvement in the

administration of affairs, would have been more satisfactory, if the detailed statement from the treasurer and auditors, on all the subjects mentioned in Sect. 2 of this work, likewise adopted since 1830, were distributed some days previously to the Anniversary Meeting, in order to allow time to the fellows to consider and examine it carefully—so as to be prepared to approve of, dissent from, or comment upon it advantageously, at that important conjuncture when the general proceedings of the governing body, for the lapsed year, ought to be fairly and dispassionately canvassed by the governed. This little addition to the concession made to the fellows' right on the subject of annual accounts, will complete this part of the reform in that department, for which we are indebted, evidently, to the Royal Duke and his councillors. It is seldom possible, at so short a notice, when a printed statement of the accounts is laid on the table, at the general meeting only, and for the first time, to make any useful observation upon it. The managers of the Royal Institution of Great Britain, which expends on an average one-third more than the Royal Society, in the promotion of science, annually, sends out its balance-sheet, previously scrutinized and reported upon by the board of visitors (who, by the bye, are tolerably lynx-eyed), to the members—at least ten days before the General Meeting. It is an example worthy of imitation.

I entered so fully, in another place, into the annual expenditure of the Royal Society for the first thirty years of the present century, that I shall not, here, offer any general remark on the subject, except that it has continued on the increase from 1828 to 1834 inclusive, as compared to the preceding seven years.

The Royal Society has expended, since the commencement of the present century (a period of thirty-five years complete), **EIGHTY-FIVE THOUSAND, FOUR HUNDRED AND FOUR**

POUNDS, ten shillings and a halfpenny. Of this sum, *twenty-six thousand, seven hundred and eighty-seven pounds, ten shillings and sevenpence halfpenny*, belong to the last seven years—whereas, to the same number of years immediately preceding, *seventeen thousand, four hundred and ninety-six pounds, ten shillings and five pence, only*, appertain. Here, then, we have a *prima facie* augmentation, in the expenditure of the Society for the last seven years, amounting to no less than £9291.—Viewing again the general expenditure as referable to the two periods, embraced by this work, the one of thirty years, the other of five, we find that, in the former period, the sum of £66,734. 5s. 8½*d.*, was expended; and, in the latter, £18,670. 4s. 4½*d.* The former sum gives us a yearly average of £2224. and a fraction, while the latter presents a yearly expenditure of £3734.—shewing, as I said before, a steady yearly increase of FIFTEEN HUNDRED AND TEN pounds.

And what, it may be asked, has the Royal Society done for science, with the expenditure of so enormous a sum, in the present century? It has published THIRTY-FIVE quarto volumes of Transactions! Take these away, and what remains, anywhere, either in England or in the civilized world, generally—to record and perpetuate the amount of benefit effected for science by the Royal Society, with such vast means placed at its disposal for the purpose of “improving natural knowledge?” What splendid discoveries has it been the means of eliciting?—what important series of experiments has it instituted?—what new principle in any subdivision of the physical universe has it established?—what, in fact, is the sum total of the benefit which has accrued to mankind from the disbursement of upwards of EIGHTY-FIVE THOUSAND pounds in thirty-five years?—*Mihi non est respondere*. I do not imagine that any fellow would be tempted to mention the existence of a collection of instru-

ments in the possession of the Society, as evidence of its endeavours to advance science, besides the publication of a work in 35 volumes ! For, what with the acknowledged imperfect state of some—the apparent want of one uniform intention in the collection—and the paucity of the whole—the existence of such a collection of instruments had better not be made a subject of exultation ; although the president and council, since 1830, have done right in directing a catalogue of them to be made and published for the use of the fellows at large. The *thirty-five volumes*, in question, then, are the only real fruit produced by an incorporated society, of some six hundred gentlemen, who are chartered to improve science :—and as the machinery, by which this result has been brought about, has occasioned an expenditure of £85,404. 10s. 0½d., if follows, that each of these volumes has cost TWO THOUSAND, FOUR HUNDRED AND FORTY pounds ; which has, in fact, been the average amount of our annual expenditure !\* What different results might not the Society have given rise to, with such gigantic means in its possession—had it been differently constituted ! I mean with regard to its machinery (for I disclaim every intention of casting blame or the smallest reflection on any individual). It is not my province now to enter upon this subject. Yet, what a fertile field of imaginings and prospects—all calculated to effect much more, with fewer means, (were the system for “doing” but changed)—does not the consideration of *these few* financial facts present to the well-wisher of the Society and the friend of science ?

Having seen, from indisputable evidence, what the year's disbursements of the Society have been, and are likely to be ; we must now turn to the “fair side,” and examine the means at the disposal of the Society, with which to meet those dis-

\* I perceive, by the statement of the treasurer, given in 1833, that he calculates the average amount of annual expenses for the seven years previous, to have been £2330. We are, therefore, very near.

bursements. In pursuing this inquiry, I cannot follow a safer guide than our late treasurer, who, in 1833, presented a very elaborate, clear, and comprehensive statement of the financial condition of the Society,\* in which he has given every information that the fellows could desire on such a subject. From that document, then, we gather that the clear annual income of the Society, which may, for some time, be expected, cannot be considered as more than £1,400. The treasurer does not include in this income, either the produce of other sums invested in the funds, of which the dividends are only applicable to particular objects, according to the intention of their respective donors—or whatever sum may be received yearly, on account of the admission fees, or composition of new members. The latter, indeed, is not likely to produce much, if it be true, that the compositions, instead of annual payments, were already decreasing considerably in number, two years ago,† when the sum required from the compounding fellow was only £40. What can it be expected to produce in future, since that sum has been, by a minute of council, of April, 1834, raised to *sixty pounds*?

It is manifest, then, that the Society, properly speaking, like a private individual who expends yearly six hundred pounds more than his income, by running into debt, or by trenching on his funded property, must ultimately become insolvent. This plain truth did not escape the late treasurer, who, in January, 1834, moved for the appointment of a committee, to inquire into the state of the finances of the Society, and to report what steps ought to be adopted, either to increase the income, or to diminish the expenditure. I have just stated, what mode was suggested for effecting the former object—besides which, I have also mentioned somewhere else, that the appropriation of the dividends of the

\* Proceedings of the Society, page 237.

† Idem.



*Donation Fund* had been recommended for the general purposes of the Society. In regard to the latter object, the measures proposed by the Finance Committee were few in number, and trifling in value. By changing the printer of the Transactions, it was expected that £100. would be saved—and that, by a further saving in the printing and engraving department, amounting together to £63. (which, were the only reductions deemed *possible*,) the general expenditure would be diminished to the extent of £163. per annum. Still, the excess of the latter over the income would continue, and by the last printed report from the treasurer, it appears, that it does continue. What is to be the termination of this state of pecuniary affairs, unless some vigorous remedy be applied to it, is a question which the president and council ought to inquire into speedily, and summon to their aid, in so doing, the body of fellows at large.

The exorbitancy of the expenditure of late years, had led one of the writers, to whom I have alluded in several parts of this work, Sir James South, to imagine that some serious misapplications of the money of the Society had been made, previously to 1830. I have not been able to trace any record of such malversations, or the least indication of them in my researches; but there are three charges, which Sir James made against the council, and to which I alluded in my publication of 1830, (see page 77 of this volume,) hoping they might, on that occasion, be refuted from authority, and of the inaccuracy of which, I have since met with the most complete evidence. The charges in question implied, that thousands of the *public* money had been spent by the president and council in some floundering experiments for the manufacturing of glass for optical purposes. Although, by the word *public*, Sir James may not have meant the money of the Society, it is well that the rulers of the latter can shew how inapplicable, to them, are all such insinuations; at least, as far as the experiments

which Professor Faraday was directed to perform, are concerned in this question. Instead of thousands—that eminent chemist, on returning all the books, memoranda, and reports of the experiments made by him, in an attempt to imitate the excellency of the glass manufactured in France for optical purposes, (in which attempt, it is pleasing to state, that the Royal Institution afforded every aid in its power,) presented an account of £85. including £47. 5s. 3d. for wages paid by him to the dependent, employed during the experiments. On that occasion, Professor Faraday very properly received the thanks of the president and council, by a minute of July, 1831, for “the ability, *economy*, and judgment, with which he conducted the experimental investigation,” just alluded to. As for the applicability of the term “floundering,” to that same series of experiments,—a report, signed “W. Lubbock,” from a committee called the Telescope and Glass Committee, will settle that point. “A telescope, made by Dollond, with glass manufactured by Mr. Faraday’s process, was examined by Capt. Kater and Mr. Pond, and found to bear as great a power as can reasonably be expected, and to be very achromatic.”

The mention of Mr. Lubbock’s name, whom the Society at large must deeply regret having lost as treasurer, imposes on me the pleasing duty of paying him a just tribute of disinterested commendation and praise. As I am, personally, wholly unacquainted with that gentleman, with whom I never have as much as exchanged a single word—I may, with a perfect assurance that I shall not be accused of partiality, declare, that, in the course of my laborious inquiries, and ransacking of the books and records of the Society, with a view of laying before my readers the various information I have collected in my present publication—information, which though important to such as wish well to the Society, and like to know its condition, is not to be found elsewhere—I have learned to admire the perseverance, the zeal, the great

ability, and the earnestness with which Mr. Lubbock has signalized the five years of his career as Treasurer of the Royal Society. In the course of that period he presided *twenty-nine* times at the ordinary meetings of the Society, and not fewer than *fifty-two* times at the council-board, which he moreover, attended *every* time it met, except *once*, when he was compelled to be absent on account of the Cambridge election—on which occasion he sent an apology, and Mr. Davies Gilbert presided instead. Mr. Lubbock undertook the management of the operations, which he successfully conducted, respecting the possession of the new apartments, the increase and new arrangement of the library, and many other laborious and useful offices. He drew up reports on some important mathematical memoirs, and made frequent reports on several other scientific subjects to the council. He has contributed eighteen papers to the Philosophical Transactions, many of which stamp him with the character of a first-rate mathematician and astronomer.\* To him the Society is indebted for the clear and candid exposition of its pecuniary affairs, which he has transacted with accuracy and precision: and for many other advantages which are likely to be felt by the fellows, and which were promoted by that gentleman's never-ceasing interest in the welfare of the Society. In fine, wherever I turned, to whatever object of my present enquiry I directed my attention, on perusing the journals and minute books of the Society, I invariably met, or to speak more correctly, I seldom missed meeting with Mr. Lubbock's name—which I found uniformly associated with every thing that was likely to be advantageous to science and to the Royal Society. I entered upon my investigation perfectly ignorant of our

\* By a singular oversight, which I can only explain on the ground of having been constantly interrupted in my composition of this section by professional duties, I have omitted Mr. Lubbock's name in the table at page 139, in which, in good truth, he ought to appear most conspicuous.

late treasurer's claims as a scientific man, as an officer of the Society, as a man of business, as a promoter of useful measures, as a joint labourer with the rest of the council, in endeavouring to change and improve the condition of our Institution—and I close it, impressed with the highest respect for his talents, as a man of science; for his industry as treasurer; for his assiduity as a chairman and member of the Council; and for the constancy and earnestness of his various efforts, as a well-wisher to the Royal Society. Truly, every circumstance of Mr. Lubbock's career, during the few years that he has belonged to the institution, on which he reflects honor, points him out for one of its future presidents.

*D. Topics which embrace the Election, Constitution, and efficiency of the Officers and Council.*

*7<sup>th</sup> Topic.* Is the present process of electing the officers and council different, and if so, superior, to the one before in existence?

The manner of electing the president, officers and council, after the fashion of the older statutes, was somewhat objectionable: it is now tenfold so; and the supporters of the Movement of 1830 have to regret, in addition, that this change for the worse, is due to the councils of men from whom better things were expected in this branch of the administration of the Society. The reader who is acquainted with the former statutes relating to this point, will bear in mind—that several days before the anniversary meeting on which the election of the entire administrative body took place, letters circular were sent to the fellows, inclosing a general list of the Society alphabetically arranged, with the names of the “old council” of twenty-one members, printed by themselves, at the head of the list. The duty of each fellow was to underline, first in that part of the list which contained the old council, *eleven*

names of persons whom it was deemed desirable to retain for another year—and secondly, in the body of the list of the rest of the fellows, *ten* other names of persons whom it was wished to place on the council for the ensuing year, in the room of an equal number of the “old council” who were to go out by prescription. In performing this double selection, the older statutes left every fellow unbiassed, uninfluenced, and unfettered. There were no previous attempts to force certain individuals into the council against the free expression of the fellows—at least none such were authorized by the statutes, whatever may have been the case in practice and in reality, in violation of them.

Out of the twenty-one members thus selected yearly, every fellow had a right to single out one eminent individual whom he considered fit to occupy the chair of the Society. The older statutes had ruled, that such an officer should be selected out of the council, not, as on the memorable occasion of 1830, it was contended by some, out of the *old* council (an absurd limitation never contemplated by the former statutes, and which would have narrowed within too narrow bounds the field for a choice of such importance), but out of *the* council, which was balloted for, and elected for the year ensuing. And it was wisely so ruled; first, because every fellow had thus the privilege of taking, out of the general list, an individual whom he desired to raise to the office of president, whether he had, or not, served already in the council—and secondly, because in performing this act of independent will, the fellows did not run the risk of naming one more than the legal number of councillors, since the president of their choice would be taken from the twenty-one members of the council, whose election was purposely made to precede that of the officers. With this interpretation of the old law, which I gave in my publication of 1830, His Royal Highness was raised to the chair of the Royal Society in that year, without

having been on the council in the previous year; in opposition to the more narrow and limited views of the meaning of the statutes, which another, and a large proportion, equally respectable, of the fellows had taken on that occasion. Here, then, was a striking example of the benefit of the unshackled privileges of election; a benefit (for I have proved it to have been so in more than one place in these pages) which the present mode of election, as regulated by the more modern statutes, would have rendered wholly improbable; inasmuch as the body of men who, at that conjuncture, directed the destinies of the Society, would have taken care not to recommend the royal personage as one whom the council proposed as president. And yet the very laws which have brought about so lamentable an abridgment of the privilege of every fellow, namely, that of selecting whom he pleases for his annual ruler, without the smallest interference on the part of the powers that be, were actually issued, in the first year of that president's administration!

By those laws, as they are now in force, the election of the president and officers, as well as that of the council is made to depend mainly on the choice of candidates made, long previously to the anniversary, by the president, officers and council themselves—a statute which, independently of the doubtful delicacy of its nature (inasmuch as it authorizes the said officers, in council assembled, to propose themselves for re-election, as the Society has witnessed for the last five years)—puts an end, at once, and nearly altogether, to the independence of the fellows in their choice of their officers. True it is that the balloting lists, bearing the names of the self-selected officers and councilmen recommended for election, have a blank column opposite each name for such alteration, as any fellow might wish to make; but, as the lists are only circulated among the fellows one week before the anniversary (and last year they were not so until within three

days of it), the proffered right of substitution to the fellows, is a real mockery. To make such a substitution effectual, so as to oppose, through its agency, the perpetuation of rulers in office, whom it is desirable to change—it is not the single uncombined written expression of each balloting fellow that will prevail and succeed; but the well arranged and long combined assemblage of many alike opinions, as was the case on the occasion of the *Movement* in the Society in 1830. The only instrument, in fact, of defence left to the fellows at present, against such a *perpetuation*, is a “a cross list”—a difficult and dangerous experiment, and with only a week of previous notice before the election, nearly impracticable.\*

The conclusion, therefore, to come to under this topic is (and I say it with regret), that the law, which regulates the election of president, officers, and council, passed in June 1831, is more oligarchic and objectionable, than any that had been previously in existence. It is an imitation of what is done in minor societies, with doubtful advantage, to say the least of it, and as such, still more deplorable. But the time may not be far distant, when it will be found imperative to change all these too exclusive ways of dealing with the appointments of either trust or emoluments in the Parent Society, as well as in those Societies which have in a manner emanated from it.

\* There is another source of previous notice of the council's deliberated list of officers and councilmen for the ensuing year, which the present statutes (Chap. VI. Sect. V.), concede to the Fellows, and is as follows—“at the ordinary meeting of the Society, preceding the anniversary meeting, the names of such persons so recommended for election as council and officers for the ensuing year, shall be announced from the chair.” But last year no such announcement was made from the chair by an omission, which, on my publicly interrogating the officers present on the subject, was admitted, though not explained: and yet, though one of the prescriptive and most important clauses of the law of election was totally neglected (unintentionally I have no doubt), the election was proceeded in, and considered valid. Amen! say I, for no one can find fault with the result—but will not such a precedent be dangerous? may not another clause upon some other more delicate point be overlooked by others hereafter, and claim the like impunity?

Had I wished to press this argument, it would have been easy for me to have quoted examples of councils being assembled to deliberate agreeably to the present statutes, as to who shall go out of, and who shall remain in, his place during the succeeding year—where a larger portion of the members present, so deliberating, were the very officers and councillors, who afterwards sent out their own names in the balloting lists, as *recommended* by the council. The thing is done by ballot, as it appears from the minutes of council—but who are those who ballot on the proposition? If not the self-proposed officers and eleven members, who recommend themselves as fit to remain another year in the council, (and, judging by the high character of all the individuals who have hitherto composed the council, I, for one, believe that such an act of delicate reservation is practised by them, though there be no evidence of the fact in the minutes), then it must be the ten who are to go out; and they, supposing it possible that they all assemble, do not form the majority of this deliberative cabinet. Another and a still greater difficulty in this singular arrangement is, that three of the deliberating members are stipendiary officers, receiving, together £235. of the Society's money! But I am sure that *they* do not ballot on the question of whether “they should be recommended for another year,” although they are uniformly present.

I declare, most unequivocally, that this exposition of a process, *per se*, so absurd—and perfectly uncalled for, since the one previously in force worked quite well enough for every purpose in the present state of the Society,—is here introduced, not for the purpose of casting the smallest reflection on the present or past officers and councilmen; but to induce them, for their own sake, to abolish, at once, a system to which it may fairly be imputed as a fault (setting aside the injustice of it to the fellows in general), that it ostensibly affects



their character of disinterestedness—when, most probably, they are not in the least deserving of such a reflection. The system, then, is morally wrong and should be changed.

*8th Topic.* Has the composition of the council since the reform of 1830 been better, and have the members, as well as the officers, both the honorary and the stipendiary, attended to the Society with more assiduity and effect than in former years?

From the consideration of the manner in which the officers and councils are elected—to the examination of the materials, of which the council have consisted since the Movement in 1830—and, to the inquiry into their zeal and abilities—the transition is natural. Here, again, I have a pleasing task to perform, that of announcing and proving (in my old inveterate way, “by facts and documents”) the great improvements which the change effected in 1830, has been evidently the means of accomplishing.

In order to shew of what materials the administrative council of the Society was generally formed, during a great number of years previously to the reform of 1830, I will here reproduce and contrast with each other, two tables which I published on that memorable occasion, the one of members, who, having nothing contributed to the “improvement of natural knowledge,” by communications to the *Philosophical Transactions*, had, nevertheless, been placed on the council over and over again; and the other, of such fellows, who having, on the contrary, much and ably contributed to that far-famed collection of scientific facts, had, nevertheless, been excluded from the body which is deputed to watch over the interests of science.


In the second table, I marked, at the time, those individuals who had most served the cause of the Society, and called on the fellows at large to say, whether a system of election,

which permitted such exclusion from the offices of the Society, ought not to be reformed? I asked, if sixty-six fellows who, from my statement in that list, appeared to have contributed one hundred and ninety-one memoirs, forming one-fifth of the total number of papers read before the Royal Society, from the beginning of the present century down to the 4th of June, 1830, and who, consequently, had by their labours, inquiries, experiments, and communications, promoted the advancement of "natural knowledge"—were to be suffered to lie, for ever, besides the walls of the great divan; and my question has since been answered in the negative, by the much to be commended alteration introduced into the manner of composing the council. By that alteration, as many as eight of the sixty-six working fellows, mentioned in the second list, have had a seat given them in the cabinet, some twice—some thrice—some four, and some even five times! This is as it should be.

The following are the two Tables in question :—

TABLE I.

*Fellows of the Royal Society who, before the annual election of 1830, without ever having contributed to "the Improvement of Natural Knowledge" by communications to the Philosophical Transactions, had nevertheless been elected once or oftener into the Council of that Society.*

 The Numbers against each, mark the Years of Administration.

3	Aberdeen, Earl of	1	Burney, Rev. C. Parr
2	Allan, Thomas	1	Canterbury, Archb. of
1	Arden, Lord	1	Carew, Rt. Hon. R. P.
1	Athol, Duke of	2	Carlisle, Nicholas
1	Babington, Wm., M.D..... 5	1	Carrington, Sir E..... 20
2	Barnard, Sir F. A.	2	Charleville, Earl of
5	Barrow, John	1	Clerk, Sir George
1	Beaufort, Francis	2	Colby, Colonel Thomas
2	Beaumont, Henry	1	Colebrooke, H. T.
1	Bringley, Robert..... 10	1	Crichton, Sir A..... 25
1	Blackburne, John	5	Croker, J. Wilson
3	Blake, William	1	Cullum, Sir J. Grey
1	Browne, Henry	2	Darnley, Earl of
2	Browne, Robert	1	Dudley, Earl of
2	Brownlow, Earl..... 15	1	Egremont, Earl of..... 30

1	Farnborough, Lord	1	Mount Edgcumbe, E. of	55
1	Fly, Rev. Henry	3	Mundel, Thomas	
2	Gillies, John	2	Nicholl, R. H. Sir J.	
1	Goodenough, Geo. T.	1	Norfolk, Duke of	
2	Gordon, Sir Fan. W.....	2	Orr, Craven	35
1	Greenough, G. B.	1	Pepys, Sir Lucas.....	60
1	Halford, Sir Henry	2	Pitt, W. Morton	
1	Hamilton, W. Richard	1	Racket, Rev. Thomas	
2	Hardwicke, Earl of	1	Redesdale, Lord	
1	Hawkins, John.....	2	Reeves, John	
1	Henley, Norton Lord	1	Rogers, Samuel.....	65
1	Hoare, H. Hugh	3	Rudge, Edward	
1	Hoare, Sir R. Colt	2	Sabine, Joseph	
2	Hobhouse, Sir Benjamin	1	St. Aubyn, Sir John	
1	Jekyll, Joseph.....	3	Somerset, Duke of	
2	Lambert, Aylmer B.	3	Southey, William.....	70
1	Lansdowne, Marquis of	5	Spencer, Earl	
1	Lowther, Viscount	3	Stanley, Sir Thomas	
1	Macgregor, Sir James	3	Staunton, Sir G. Thomas	
2	M'Leay, Alexander.....	2	Stowell, Lord	
1	Mansfield, Earl of	1	Sumner, George Holme.....	75
1	Mathias, T. J.	2	Warburton, Henry	
3	Maton, W. George	2	Wilson, Gloucester	
2	Montague, Matthew	1	Yorke, R. H. Charles.....	78

21 of whom are Peers.


Unquestionably the appointment of individuals, eminent for their birth and rank in society, may be assumed as a circumstance likely to favour the objects of the Royal Society—but, in order to produce such an effect, it is highly important that the individuals, so gifted by Providence, should fulfil the duties belonging to their appointment, and thus constantly mingle, while in office, their personal influence with the influence of those who have risen to eminence by their talents, education, and labours in the field of knowledge. Now I am prepared to say that, so far from this having been the case, at the council-board of the Royal Society,—it is a matter susceptible of demonstration, that, with only three or four exceptions, Earl Spencer, Earl Charleville, and the late Lord Morton, probably not one other of the aristocracy ever attended to discharge the duty to which they were appointed. Hence we lose entirely the magic of their names; and we see violated that part of the existing statutes of the Society, by which it is declared that, “it importeth much the good of the Society,

that such persons may be chosen into the council as, are most likely to attend the meetings and business of the council."


It is fair to suppose, that sentiments like these must have influenced the three distinguished statesmen who sent in their resignation, immediately after their election into the council in 1830 ; I allude to Viscount Melville, Sir Robert Peel, and Sir George Murray. Such a step on their part, was highly to their credit.

## TABLE II.

*Fellows of the Royal Society, who, before the Annual Election of 1830, had never been Elected into the Council of that Society, although they had Contributed to "The Improvement of Natural Knowledge," by one or more Communications to the Philosophical Transactions.*

 The Names in Italics distinguish those who have since been placed on the Council, and the Number opposite, the Years they have held their seats.

3	<i>Allen, William</i>	1	Harwood, J. M.D.
9	<i>Barklow, Peter, 3</i>	9	Hellins, Rev. John .....35
2	Bauer, Francis	10	Henry, Wm. M.D.
1	Bayley, John	1	<i>Holland, Henry, M.D. 2</i>
5	<i>Bell, Sir, Charles, 2</i> ..... 5	2	Hope, Th. Charles, M.D.
16	Brewster, David	1	Hosack, David, M.D.
1	Bromhead, Sir E. F.	1	Howard, Luke ....40
3	Brougham, Henry (Lord)	2	Hume, Sir Abraham
1	<i>Buckland, Rev. W. C. 3</i>	2	Kidd, John, M.D.
7	Carlisle, Sir A. .... 10	2	Lax, Rev. Wm.
1	Caine, Joseph	1	Leach, Will. El. M.D.
10	<i>Christie, Sam. Turner, 3</i>	1	Lee, Robert, M.D. ....45
2	<i>Cleft, William, 2</i>	2	Macartney, James, M.D.
9	Cloyne, Bishop of	2	Macdonald, Lieut. Col.
2	Dalton, John .....15	1	Miller, Lieut. Col.
1	Darwin, R. W. M.D.	1	Parry, Charles H. M.D.
1	Davis, Jowet	1	Phillips, Richard .....50
2	Davy, Edmund	2	<i>Powell, Rev. Baden, 2</i>
13	Davy, John, M.D.	2	Princep, James
3	Dyllum, L. Weston .....20	4	Ritchie, Mr.
1	<i>Dolland, George</i>	1	Robertson, James
2	Earle, Henry	3	Scoresby, Jun. Will. .... 55
1	Fallows, Rev. Fearon	2	Scott, John, Corse
8	<i>Faraday, Michael, 3</i>	1	Sewell, Sir John
1	Fisher, Rev. George .....25	1	Thomas H. L.
2	Foster, Henry	2	Thomson, Th. M.D.
1	Gibbes, Sir G. S.	1	Thiarks, Dr. J. L. .... 60
5	Goldingham, John	1	Throughton, Ed.
3	Granville, A.B. M.D.	2	Ure, Andrew, M.D.
1	Greatorex, Thomas .....30	1	Weaver, Thomas
1	Griffiths, John	1	<i>Whewell, Rev. William, 5</i>
2	Hall, Basil	3	Whitley, Joseph .....95
2	Harvey, George	3	Williams, T. Lloyd.

 A few of these have since passed into a better world.

The good work once began, was not likely to stop here. To adopt half measures, in this question at least, would have been unworthy of the reforming spirit with which the Royal President entered on his high calling. To revert to the old system of appointing merely titled fellows to the government of the Society, would have been impossible,—after the exposure of that system, which I then made, as the reader has seen in the remarks, which precede and follow the first of the two lists just quoted. In forming the council of the Royal Society, therefore, it became now necessary to look about for working men, and such were to be found, without much difficulty, amongst the many hundred individuals who compose that body. The public must have, therefore, witnessed, with satisfaction, the selection which has been made, year after year, since the reform, of fellows appointed to the council.

The inspection of the following alphabetical table of them, for the last five years, in which I have also marked the number of years, (when more than one,) during which the individual held a seat at the council-board, will afford the best practical proof of my assertion, that the work of improvement is going forward in this branch,—and a most triumphant answer to those who thought that “any change” was dangerous, and to be deprecated.

TABLE III.

*Fellows who have been elected into the Council during the five years, since the great change in 1830, beginning with the Anniversary of the Society in 1831, distinguishing those who have contributed to the Philosophical Transactions, and the number of their communications since their election as Fellows.*

3	William Allen	6	Sir B. C. Brodie, Bart. 2
2	Francis Baily, 2	0	Mark J. Brunel, 2 . . . . . 10
7	Peter Barlow, 2	1	Rev. William Buckland, 3
0	Ch. Frederick Barnwell, 2	12	Samuel H. Christie, 3
0	Capt. Francis Beaufort, R.N. . . 5	2	William Clift, 2
0	Henry Thomas De la Beche	0	Rev. Henry Codrington, 2
1	John Bostock, M.D.	0	Rev. James Cumming, 2 . . . . . 15
12	William Thomas Brande, 2	3	Charles Daubeny, M.D.

2	George Dollond	0	Rev. Robert Murphy, M.A.
19	Michael Faraday, 2	0	Lord Oxmantown
4	Davies Gilbert, 3	0	Rev. George Peacock, 3
3	Benjamin Gompertz, 2 . . . . .	20	6 W. H. Pepys, 2
0	J. H. Green, 2	2	Rev. Baden Powell, 2 . . . . . 85
0	G. Bellas Greenough, 2	3	George Rennie
1	Henry Holland, M.D. 2	0	Sir John Rennie, 2
0	Rev. Phillip Jennings, D.D. 2	0	Stephen Peter Rigaud
0	William Lawrence . . . . .	25	0 Rev. Adam Sedgwick
18	J. W. Lubbock, 5	0	Rev. Richard Sheepshank . . . . 40
1	Charles Lyell	1	Capt. W. H. Smyth, R.N.
0	W. G. Maton, M.D. 2	1	Edward Turner, M.D. 2
0	Herbert Mayo, 2	0	Nicholas A. Vigers
0	R. J. Murchison, 4 . . . . .	30	4 Rev. W. Whewell, 4 . . . . . 44

One hundred and thirteen papers by forty-four fellows, giving an average of labour for each member of the council in the course of five years— $2\frac{1}{2}$  papers in the Transactions.

But, on analysing even this very satisfactory list of talent, we find not fewer than 21, out of the total number of 44 members, who have never bestowed any portion of their time in adding to, and upholding that ancient pile of philosophical contributions, from men of science to the world at large, which is the main-stay of that society's character, over the affairs of which they have been called to preside. The labour and honour, therefore, of the one hundred and thirteen papers enumerated above, remain to be shared among 23 fellows—really working fellows—who have thus enriched the Philosophical Transactions, at an average of nearly five papers each, in the space of five years.

It would be an invidious task to signalize particular individuals in this contest of talent; yet it is almost impossible not to point the attention of my readers to the numerous, and what is more to the purpose, to the highly important communications of some of these twenty-three councilmen—to those of Faraday for example, Lubbock, Christie, Barlow, Brande, Whewell, Brodie, Daubeney, Pepys, Powell, Davies Gilbert, Baily, Buckland, Clift, and some others; while, on the other hand, it ought to be equally understood, that the mere fact of non-contribution to the volume of the Transactions, can never disqualify for a seat in the council of our Society, such men as Peacock, Sedgwick, Brunel, Rennie, Murchison, Greenough, Beaufort, Smyth, &c. These highly-gifted per-

sons have worked hard in the field of mathematical, mechanical, and geological science—have acquired a name, which is both English and European—and, by their attendance at the council—by their reports and opinions,—and their experience and love of science, have made themselves, no doubt, a necessary and a most useful addition to that Board.

Still, there are even, in such a table as this, symptoms of something like a spirit, different from that which seems to have prevailed, more generally and successfully, in the selection of the members—a spirit, which it is to be hoped, will be “reformed altogether.” Then, instead of seeing in the government of our affairs, persons who have been but two or three years fellows of the Society, and who have never contributed to the Transactions—or, whose names are only known, because they are observed in print on the annual list of councilmen (while there are other, and far different materials to work withal); we shall find none, upon that list, but such as have deserved well of science, either as connected with the Royal Society, or as members of the community at large. Justice and impartiality compel me likewise to allude, in the same strain, to some of the more recent selections made by the Royal President, of fellows on whom he has been pleased to confer the dignity of vice-presidents, generally, for two years. Surely, as long as there are persons in the Society, who have laboured with unremitting zeal and indefatigability to uphold its character, and acquire the proud name of truly scientific men, which they bear—they, and not those who have never done the smallest service to science, should be seated in the vice-president chair. If a physician was necessary to do honour to his class of fellows among the vice-presidents—then Dr. W. Philip should have preceded, by a long interval, an amiable deceased doctor of medicine, in that honourable office—and another M.D. raised to that office, at the last anniversary, should have waited until Doctor Prout had, in his turn, enjoyed a distinction he

so greatly merits. Were not, also, the heavy claims on society, and the nation, of the gifted Director-general of the army medical staff, deserving of the same honor, long before others who have been thus honored? These, and some other instances, simply and slightly alluded to, of exceptionable selections among the councils, lead one to think, that our Royal President's heart is equally assailable, with his predecessors, by the kindly feelings of direct or indirect personal predilection,—not always the best guides to a correct discrimination of merit. His Royal Highness will forgive to one of his most humble constituents in the Society, a frankness which he will ascribe to the right cause.

It would not be a bad rule to establish, with respect to the election of fellows into the council—that they should have contributed papers, either to the volumes of the Society itself, or to those of any other scientific society of high character—somewhat in the fashion adopted by the British Association, respecting the composition of their general committee; with this difference, however, that with that learned body, all *are* members *de jure*, of the general committee who have contributed to science, in the way I mentioned; whereas, in the case of the Royal Society, individuals so situated, would only be *eligible* to the office of councilmen, and the annual selection of fellows for that office, might be limited to their class.

The inspection of the list of vice-presidents, who have been appointed in the course of the last five years by the Royal Duke, will render needless any farther remark from me on this point. It is to be borne in mind, that an appointment of this sort, inasmuch as it is the only one which the statutes have placed wholly at the discretion of the president; so it is also the more honourable for the individual who receives it, and should be bestowed solely with one view, and from one motive—the offering of a guerdon to merit—and the incitement of emulation among the fellows.



*Vice-Presidents, appointed by His Royal Highness the Duke of Sussex,  
In 1831.*

W. Cavendish, Esq.  
Sir Astley P. Cooper, Bart.  
Davies Gilbert, Esq.

J. W. Lubbock, Esq., Treasurer.  
John Pond, Esq.  
George Rennie, Esq.

N. B.—The Treasurer is always a V. P., and makes up the number of Six, whom  
H. R. H. has annually nominated.

1832.

Francis Baily, Esq.  
Rev. W. Buckland, D.D.  
Mark J. Brunel, Esq.  
Rev. J. Cumming, M.A.  
W. G. Maton, M.D.

1833.

Francis Baily, Esq.  
M. J. Brunel, Esq.  
Sir Benjamin Brodie, Bart.  
Rev. J. Cumming, M.A.  
Davies Gilbert, Esq.

1834.

W. Th. Brande, Esq.  
Sir B. C. Brodie, Bart.  
Rev. P. Jennings, D.D.  
Rev. G. Peacock, M.A.  
Sir John Rennie, Knt.

1835.

Davies Gilbert, Esq.  
H. Holland, M.D.\*  
R. J. Murchison, Esq.  
Sir J. Rennie.  
Rev. W. Whewell.

Francis Baily, Esq. was added to the list of 1835, at the anniversary, as treasurer, instead of W. Lubbock, Esq., who resigned, from motives which it does not become me to bring under discussion in the present publication. In common, with the rest of his co-fellows, I deeply lament the secession of a gentleman, who has proved himself, as I have shewn elsewhere, a most assiduous and indefatigable man of business, whether as treasurer or vice-president, or member of the council, during a period of five years—and if any circumstance can reconcile one, who is eager for the prosperity of an institution, which calls for the speedy, and joint, and cordial assistance of all “good men and true,” in order to be saved—to such a secession—it is the appointment of a gentleman full worthy, in point of scientific reputation, to succeed him.

\* The only trace, either oral or printed, whether in the Society, or out of the Society, of the scientific claims of this vice-president to the distinction of such an office, by virtue of which, he may occasionally have to preside at a council, composed of men like Baily, Lubbock, Whewell, Brunel, Rainy, Buckland, for the discussion of high scientific questions, is a short paper, published in the Philosophical Transactions, describing the mode of manufacturing purgative salts in some small village, near Genoa!

A A

## TABLE

*Of the Presidents of the Royal Society since the Foundation.*

<i>By the Charter.</i>		<i>Presided Years.</i>
April 22, 1663.	William, Lord Viscount Brouncher.— (Not a scientific man.)	14.
<i>Elected.</i>		
Nov. 30, 1677.	Sir Joseph Williamson, Knt. — (A statesman, and a benefactor of Queen's College, Oxford, but not a scientific man)	3.
1680.	Sir Christopher Wren, Knight.—(Architect, and well versed in mathematics)	2.
1682.	Sir John Hoskins, Knt. and Bart.—(Not a scientific man. The son of a lawyer)	1.
1683.	Sir Cyril Wyche, Bart.	1.
Dec. 1, 1684.	Samuel Pepys, Esq.—Author of several Improvements in the King's Navy, and Secretary to the Admiralty	2.
Nov. 30, 1686.	John, Earl of Carbery—nothing known of this President	3.
1689.	Thomas, Earl of Pembroke and Montgomery	1.
Dec. 1, 1690.	Sir Robert Southwell, Knt.	5.
Nov. 30, 1695.	Charles Montagu, Esq., afterwards Earl of Halifax.—(A poet and statesman.)	3.
1698.	John, Lord Somers.—(A literary character, and Lord Chancellor.)	5.
1703.	Sir Isaac Newton, Knt.	24.
1727.	Sir Hans Sloane, Bart.—(A naturalist and physician.)	14.
1741.	Martin Folkes, Esq.—(An antiquarian in every respect, but not a scientific person.)	11.
1752.	George, Earl of Macclesfield.—(Not a scientific person.)	12.
1764.	James, Earl of Morton.—(Not a scientific man.)	4.
Oct. 27, 1768.	James Burrow, Esq.	1 month.
Nov. 30, 1768.	James West, Esq.	4 years.
July 7, 1772.	James Burrow, Esq.	4 months & 25 days.
Nov. 30, 1772.	Sir John Pingle, Bart.—(Physician only.)	6 years.
1778.	Joseph Banks, Esq. (afterwards Right Hon. Sir)	42.
June 29, 1820.	W. Hyde Wollaston, M.D.	5 months.
Nov. 30, 1820.	Sir Humphry Davy, Knt. and Bart.	7 years.
Nov. 13, 1827.	Davies Gilbert, Esq., M.P.	39 months.
Nov. 30, 1830.	H. R. H. THE DUKE OF SUSSEX	

## TABLE

*Of the two Secretaries of the Royal Society since the Foundation.*

*By the Charter.*

**A**

**B**

April 21, 1663. John Wilkins, D.D.  
*Elected.*

Henry Oldenburgh.

Nov. 30, 1668. Thomas Henshaw, Esq.  
1672. John Evelyn.  
1673. Abraham Hill.  
1675. Thomas Henshaw.

Nov. 30, 1677. Nehemiah Grew, M.D.  
Robert Hook.

Nov. 30, 1679. Thomas Gale, D.D.  
Nov. 30, 1681. Francis Aston, Esq.

Nov. 30, 1682. Robert Plot, LL.D.  
1684. Mr. W. Musgrave.  
1685. T. Robinson, M.D.

Dec. 9, 1685. Both Secretaries re-  
signed.

Dec. 16, 1685. Sir John Hoskins, Bart.

Thomas Gale, D.D.

Nov. 30, 1687. Richard Waller, Esq.

Nov. 30, 1693. Hans Sloane, M.D.

Nov. 30, 1709. John Harris, D.D.  
1710. Richard Waller, Esq.

Nov. 30, 1713. Edmund Halley, LL.D.

Jan. 13, 1714. Brook Taylor, LL.D.

Dec. 1, 1718. John Machin, Ast. P.  
Gresham.

Nov. 30, 1721. James Jurin, M.D.  
1729. Wm. Ruttý, M.D.  
1730. Crom. Mortimer, M.D.

Nov. 30, 1747. Peter Daval, Esq.

Nov. 30, 1752. Thomas Birch, M.D.

Nov. 30, 1759. Charles Morton, M.D.

Nov. 30, 1765. Matthew Maty, M.D.

Nov. 30, 1773. Samuel Horsley, LL.D.

Nov. 30, 1776. Joseph Planta, Esq.

1788. Paul H. Maty, A.M.

May 5, 1784. Charles Blagden, M.D.

1797. Ed. W. Gray, M.D.

Nov. 30, 1804. W. H. Wollaston, M.D.

Jan. 22, 1807. Humphry Davy, Esq.

Nov. 30, 1812. Tayler Combe, Esq.

Nov. 30, 1816. W. T. Brande, Esq.

1824. I. F. W. Herschel.

1826. J. S. Children.

1827. Peter Mark Roget.

1827. Capt. E. Sabine, R.A. Resigned 1830.

1830. J. S. Children.

} Resigned.

## TABLE

*Of the Foreign Secretaries formerly appointed by the Council, and now  
Elected by Ballot.*

11, April,	1723....	Philip Henry Zollman.	{	Appointed by the Council in room of Dr. Zollman, (he being obliged to attend the Congress at Soissons) till his return.
18, April,	1721....	Dr. Dillenius and Dr. Schuchzer		
29, August,	1748....	F. Stack, M.D.		
20, November,	1751....	J. Parsons, M.D.		
4, March,	1762....	Matthew Maty, M.D.		
11, December,	1766....	John Bevis, M.D.		
13, February,	1772....	P. Henry Maty, M.A.		
30, May,	1774....	Mr. Joseph Planta.		
14, January,	1779....	Mr. Charles Hutton.		
17, June,	1784....	Rev. Charles Peter Layar, D.D.		
22, March,	1804....	Thomas Young, M.D.		
30, November,	1829....	W. T. Brande, Esq.		
—, May,	1831....	Ch. König, Esq. K.G.		

9th *Topic.* What measures have the successive councils adopted to improve the well-being of the Society at home, and to increase its reputation abroad, by the advance of science which they have been instrumental in making?

From individuals (or the major part of them), such as those whom I have shewn to have composed the successive councils of the Royal Society, since the first election of H. R. H. as president, much was to be expected; not only in the way of improvement and correction of abuses, but in the adoption of means calculated to render that Society truly efficient, as well as capable to represent the scientific men of this country in the face of Europe. With regard to the two first objects, I have already, in reporting with historical fidelity, and in discussing the several changes that have been effected in the management of the Society's public and private affairs (if I may so style them), exhibited in various parts of the present division of my work, all that the president and councils have accomplished. We have now to consider the nature of the labours in which they have been embarked, or which may have been imposed upon them, in furtherance of the third

object for which they were appointed—and to determine the degree of assiduity and zeal, with which they have attended at the board and discharged their duties. Again, I must repeat in this part of my task, that in my narrative of facts, where no specific observation of a personal nature is purposely made, whatever I advance must be considered as directed solely to the system under which the president and council are bound to act—and that, if I endeavour to shew, at times, either the *little* that has been effected, or the *much* that might, and has not been accomplished—either the occasional inefficiency of the measures adopted, or the remissness in not adopting any measure whatever for the advancement of science—I can have no particular person or persons in view, in my observations; nor any desire of casting blame on any of the component parts of the administrative Body of the Society. The machinery alone, by which that Body is put in motion, being deserving of condemnation.

One of the earliest steps taken by the president and council in 1830, was to direct that, in future, a report should be drawn up by the secretaries, and read by one of them at each anniversary meeting, detailing the proceedings of the council during the lapsed year—a publication of their acts, which bespoke their anxiety to screen nothing from the Society. This resolution has been acted upon every year since (with the exception of 1833\*), and is decidedly a great improvement on the old system of silence and mystery.

The council next took up the Revision of the old statutes. It was a proper, and, indeed, a first rate measure to adopt—but not in the manner in which it has been carried into effect. In forming the committee, which was to discuss the alteration of the then existing laws of the Society, the council

\* See proceedings of the Royal Society, page 215, Anniversary Meeting, 30th of November, 1833. No reason is assigned for the omission.

met with considerable difficulties. They wished to associate with themselves in this work, an equal number of fellows, selected from the Society, "as seemed most able, as well as willing, to give their valuable advice and co-operation;" but of the first who were invited, the most likely to be useful, declined the task. First, Baily—then Harrison—next Herschel, and afterwards Babbage, and Robert Brown, and Fitton, and Penn, and Whewell, and so on—one by one—each alleging some excuse, the best men failed them. The reason assigned by Babbage, on the occasion, is rather curious, and worth preserving. "Having (says he) no reason to imagine that my presence at that committee could be attended with any advantage to science, I beg leave to decline the nomination." Substitutes were found who were less squeamish or particular—and the work of revision went on right merrily—but not right usefully, as I have already shewn elsewhere, in speaking of some of the sections of the new or *reformed* statutes. What a glorious opportunity was here lost for immortalizing the joint committee of forty-two, who might have placed the Royal Society on a new and sound basis, worthy of the enlightenment of the present age! It would be useless for me to dwell farther on the subject, by pointing out many other clauses in the statutes-book which are faulty—and many parts in which what is wanted is more conspicuous than what is expressed;—since, by the plan of reform, which I presume to advocate, as the only one to which the Society must come at last—for regeneration and re-invigoration—the present statutes, become altogether useless and inapplicable. Yet, while on this subject, I cannot help lamenting that, after the committee of revision had made their report, the matter had not been brought before the Society at large, and its opinion taken *seriatim* on the proposed laws that were to govern the fellows generally. The Royal President knew well, and better than any

one else, that such *must* have been the course, had a general alteration of the laws of another extensive body of men, over whom he presides, been deemed necessary, and a new code prepared accordingly by a committee. None would have ventured to have printed such a code and distributed it in that case, for implicit obedience, without previous discussion, and approbation being obtained from the general body for that purpose. And are not the fellows of the Royal Society worthy of being trusted with the exercise of a like privilege? Again, the council assume to themselves (and I suppose correctly) to enact new statutes, and make alterations in them, from time to time, which are *instantly* sealed with the authority of a law, by certain forms observed at two meetings of their body—the Society generally, oftener than not, being kept in the dark for some time, or until the anniversary meeting, respecting all such proceedings. Is this all right? even supposing the form of the Society to continue as it now is? Provision has, indeed, with a shew of liberality, been made by the new statutes for calling special general meetings of the Society, which never existed before—and the provision is sufficiently easy of accomplishment. But to what, I would ask, has this addition to the old statutes led since the election of the president and councils in 1830. On which of the many subjects of importance that have passed under revision, and still require revision, has the Society been called together under such a provision? True, it may be retorted by the council, that, by the statute in question, they have put it into the power of any six fellows to require and obtain a special general meeting; for the council has not reserved to itself the power of refusing it. But a meeting so summoned must, in most cases, be a signal of impending collision between the governed and the governors—and a wise government strives to prevent all such occurrences, by anticipating

the just wishes of those over whom it has a temporary authority.

The last chapter of the new statutes, which is retained from the older collection, and relates to the making and repealing of laws (considering the country and age we live in), is as ultra-aristocratic a mode of dispensing with the interference of the majority, on the part of the minority (21 to 700), as could possibly be expected under the most absolute system of rule. Yet no one would credit that a council, so empowered, has never had the regulations by which it is, or should be, governed in its own proceedings, defined by the revision committee! We look, in vain, for any such regulation or bye-laws in the printed papers issued to the fellows. We are even ignorant of what number a *quorum* of that body should consist to make legal their deliberations—and of whether, when members of that *quorum* are interested in any question for ballot, the regulations forbid their voting upon it. Of course, looking to the character of the persons who have hitherto been on the councils, every one must immediately conclude, that their own feelings of delicacy alone would dictate to them the proper course to be followed on such occasions; but, in law-making, this is not a sufficient safeguard against abuses. There may not always be the like set of men at the helm of affairs; and, in fact, legislation should look to generalities, and not to particular cases.

Why the members of the council of the Royal Society, should take an oath, on entering their office, it is not easy to conjecture; unless it be to give more solemnity to their assumption of power. It cannot be for the sake of keeping the *legal* proceedings of the Board secret; since the statutes, old as well as new, have given to every fellow, power to have access to the "Journal books of the Council," *without any reservation as to the use which they may think proper to*



*make*, with the information they may thus obtain. It is in virtue of such a power, that I have collected the facts contained in a former, as well as in my present publication. To what use then, is an affirmation or obligation, stamped with a sacred character, on an occasion of very little consequence, after all, compared to the one all-important and mighty concern of man?

One branch of operations beneficial to the Society, which the council has adopted, embraces a variety of internal arrangements, which it gives one pleasure to enumerate. The first of these is the addition, obtained from Government, to the apartments occupied by the Royal Society in Somerset House—in which operation, again, the Royal President's zeal and influence were of the utmost advantage;—and next (2), the total reform of the library department. As it existed before the movement of 1830, this department was a disgrace to the Society. It may now be quoted as a rich and well-regulated deposit of every work likely to serve the purposes of science; no less a sum than £1600. having been expended in the purchase of modern and scientific works, at the recommendation of the library committee. (3) The disposal of the Arundel and Oriental MSS. to the British Museum, with the produce of which, the president and council were enabled to effect such a glorious change in the state and value of the library; followed as a matter of prudence and necessity, and the negociation was ably conducted. (4) The appointment of an able person to make an accurate and complete catalogue *raisonné* of the books, which is now nearly ready for press, and of the magnitude of which, an idea may be formed from the time it has taken for its completion, and the sum (£500.) given as a remuneration to its compiler—was a proper measure. (5) The order for printing the proceedings of the Society, by a minute of the 16th of December, 1830, which have, ever since, been regularly distributed among

the fellows, and are a fac-simile of the minutes in the Journal-book of the Society, has been a great improvement. (6) The publication of the abstracts of papers printed in the Philosophical Transactions since the beginning of the present century, in two volumes, 8vo., sold to the fellows at a very moderate price, resolved by a minute dated 10th of March, 1832, I believe met with general approbation. (7) The printing of the minutes of council, after they have been confirmed, for the use of the members of the council only, ordered in March, 1833, I have no doubt has been found useful. (8) The extending considerably the right of having access to the library and of borrowing books—by which the former may be consulted by the fellows any day in the week (Sundays and certain holydays excepted) for five hours and the latter taken away, under more wholesome regulations, has been hailed with satisfaction. (9) The rescinding of the absurd minute of council of February, 1829, by which fellows were precluded from borrowing any of the new books or periodical publications, which, on the contrary, may now be borrowed at the expiration of one month after their being presented, has given facility to the communication of recent information. (10) The sale of the ancient coins and medals, which were perfectly useless, and (11) the order for a catalogue of the instruments and portraits in the possession of the Society, and (12) the directing a general index to be made of the contents of the Transactions from 1821 to 1830, though of minor importance, may also be quoted as useful acts of administration.

All these measures are the fruit of the exertion of the new councils, whom the great contest of 1830 called into the field, to assist in giving body and consistence to a Society, which, immediately before, threatened to fall paralyzed and disjointed. They are all measures highly deserving the commendation and gratitude of the fellows; and will assist greatly

in furthering the good work of a more complete, effectual, and regenerating reform of the Society.

It is to be observed, that all these forward steps in the amelioration of the conduct and proceedings of the council, were adopted nearly simultaneously, and within the two years, which succeeded immediately after the election of the Royal Duke to the chair of president. In the first of them (1831), His Royal Highness was constant in his attendance to the affairs of the Society; having presided over its ordinary meetings not fewer than thirteen, and at the council board fifteen times in that year. The presence of the Royal President had no doubt a most impressive and salutary effect. The attendance of the members was constant and numerous; there being seldom fewer than fourteen or sixteen of them present at each meeting. Early in the same year the secretaries were directed to address to each member of the council the expression of his Royal Highness's wish and hope, that they would be punctual in the discharge of their duties—as it was his full determination to attend regularly. We have just read evidence enough, in the preceding two pages, to certify to the excellent effect which such zealous attention to business had on the affairs of the Society. In the succeeding year (1832), H. R. H. attended seven times the meetings of the Society, and four times the council. In 1833, the fellows had but four times the satisfaction of seeing their royal president among them—twice in the year after—and last year they were wholly deprived of that honor. At the Council Board, the Duke presided four times in 1832—an equal number of times in 1833—five times in 1834—and, during the whole of last year, H. R. H. did not attend, from the same lamentable cause: which, in common with all the sincere well wishers of the Royal Duke, I earnestly pray may be speedily removed by the art of man, under the special guidance of Providence. The choice of the skilful and experienced operator, which

His Royal Highness has made, promises the best success. During the entire lustre of the Duke's presidency, there were 126 ordinary meetings of the Society, and 83 meetings of the council. Over the former, H. R. H. presided twenty-eight times and thirty times at the latter. The Royal Prince likewise presided at three anniversary meetings of the Society, at which he delivered long and eloquent addresses, embracing biographical accounts of the most eminent of the fellows deceased, English as well as Foreign—two of which addresses have been printed and sent to the fellows. The effect of inability to attend, either the Society or the council, on the part of the Royal President, is singularly visible in the minute-book of the latter, which records the attendance of the members; and, likewise, on the manner in which business was conducted and improvements continued. Council-boards, one after another, appear to have assembled with the smallest number possible of members, four of whom generally were officers of the Society,—namely, the three salaried secretaries, and the treasurer in the chair. Minutes of resolutions are entered, directing certain things to be done, the execution of which never appears to have been reported at any subsequent meeting.\* Resolutions are passed at one

\* By a minute of council, dated the 26th of February, 1831, an immediate arrangement and classification of all the papers belonging to the Royal Society was ordered, and the report of the committee, appointed for that purpose, *was directed to be made at the following meeting*; but no such report appears on the minutes of either that or any subsequent meeting—and I have reason to believe that no report whatever was ever made. The said papers tied up in bundles, according to their dates, are now lying in one of the rooms of the Society,—the only evidence of a small part of the resolution of council having been carried into effect. A pretty encouraging evidence, indeed, for those authors, whose written communications to the Society were “consigned to the archives,” by resolutions of the Committee of Papers! Now, it is manifest that the fault lies, in this case, first with those who have not complied with the orders of the council, and next with the council, for not seeing their own orders executed.

meeting which are counter-resolved at the next, or soon after.\* Notices of motions, generally of an important nature, are entered at one time, which are never afterwards acted upon by the mover ;†—and, finally, some of the most trifling and insignificant objects, or questions, seem to have engaged the time of the council *so attended*. I say, advisedly, so attended—for, with such names on the list of the successive councils, since 1830, as I have published in another part of this section—it would be the height of injustice to imagine that, such indifference and so relaxed a disposition to act, and act regularly and efficiently, would have been shewn by them, had they attended the board. Not even the *constant* presence of the officer next in importance to the president, with all his energies, activity, and knowledge of business, which I have already duly and justly recorded—I mean the late treasurer—had the effect, during the last two or three years, to place matters on the footing on which they were in 1831—and the minutes of council for those years, particularly of 1834 and 1835, are the most jejune records of a public body, that one could expect to meet with. That the officer in question was fully convinced, as well as aware, of this fact—his conduct in resigning, and the motive he assigned for his resignation, fully prove :—and I shall not be taxed with having misrepresented facts—when that resignation and the letter which accompanies it, are taken into consideration, as corroborative of the truth of my statements. The fact is, and there is no disguising it—philosophers, in some respects, differ but little from ordinary men.—They, like us, who have no claims to such a distinction, are influenced by feelings approaching to those of vanity. They wish that the

\* Thus, in January, 1835, the successor to Mr. Hudson is to be denominated Clerk, and in February, his title is to be that of Assistant Librarian.

† I particularly allude to Mr. De la Beeche's motion, hereafter noticed.

work which they perform, as members of a public Board, should be witnessed, and approved of, by their chief, whose station in life is so much far above them—and with less readiness will they submit to the governing *dicta* of any one of their own number, accidentally placed in the chair of their ruler. Be it as it may—there is no disputing the assertion, that the council, in the way of internal improvement, has stood still since the more frequent absence of their royal president. There is one serious inconvenience, arising out of that absence, which must not escape notice. It has happened, that when a resolution of importance has passed the council in the absence of the president, its execution was staid, at the next meeting, by a second resolution, directing that the former should not be carried into effect, until it had been submitted for, and obtained, the approbation of H. R. H. himself. This was the case, for example, with regard to a resolution of the council of the 21st of October, 1831, respecting a reverend doctor, who, having by a regulation of the council ceased to be a fellow, with many others similarly situated, in consequence of some arrears which had been applied for, and not obtained (as it appears, entirely through a mistake), requested to be restored, and his request was granted. The Royal President was in the chair at that meeting; but at the following, when the question arose whether the previous resolution should be confirmed—it was ordered, that the resolution in favor of the petitioning fellow should not be communicated to him, until it had received the approbation of H. R. H. who was absent. On general principles the step was an irregular one—but the inconvenience, to which I particularly alluded, is this—that the execution of a resolution adopted deliberately by a body of many councillors—was made contingent on the will of their principal officer, who was to be consulted upon it, and express his opinion, while deprived of the benefit of their advice and sanction; and open only,

to the effect of the manner in which the question might be represented to him by the secretary, or whoever was deputed to make the communication. Added to which, there is the other inconvenience of delay. What became, ultimately, of the original motion in favor of the petitioning fellow—the minute-book of council sayeth not; for no notice whatever appears ever after on the subject in that register.\*

This circumstance, brings me to speak of another measure, which the council adopted for the welfare of the Society, during the *actual* presidency of the Duke of Sussex—and it is the determination to bring the question of arrears of contribution from fellows to an immediate issue. By their firmness, the council obtained the payment of many of them, and the funds were so far benefited. In executing this delicate task, the council had the unpleasant duty of cancelling the names of more than one fellow on the list, which were an ornament, if not a positive advantage to the Society. I am in possession of all the memoranda necessary to throw a fuller light on this part of the proceedings of the regenerated administration of the Society—but to particularize, or individualize, on unpleasant subjects, forms not the object of the present publication.

It is abundantly manifest, therefore, that the well-being, and future success of the Royal Society, requires not only, that its president should, if possible, be, like the present illustrious individual, a person placed by his eminent station in society, beyond the reach of experiencing himself, or

\* I purposely abstain from noticing one or two other proceedings of a like nature, affecting an individual of even a higher station in the world, which were carried on simultaneously at the council-board—as the narrative of them might wound the feelings of all parties concerned, and, consequently, would be inconsistent with the intention of my publication. In those proceedings, there appears some contradiction, which cannot easily be explained; and their definitive termination is no where to be learned from the minute-book of the council!

inciting in others, those more ordinary feelings, which are frequently the cause of obstruction to business, and of retardation in the career of improvement—but that he should likewise, by his frequent attendance amongst his councillors, shew, that he scorns to work in his public capacity with the assistance of only one or two private advisers, or, under the control of any secret *Camarilla*. That such are the sentiments, with which our Royal President was believed to be thoroughly imbued, when recommended for the chair, in 1830, by the fellows, with whom I had the honour of acting,—his conduct, while his health permitted it, has amply shewn: and, I shall not abate one tittle of my still prevailing opinion to that effect—for all the insinuations, reports, and even plausible outer-appearances of truth in the statements made, that those sentiments in the Royal Personage, have since suffered a material change. In order to consecrate those sentiments still further, I shall here quote, as a fit portion of our history, the public declaration made of them by the Royal Personage himself, when, on the first occasion of his re-election at the anniversary, of November, 1831, he described, in a most feeling and eloquent manner, his conception of the duties of the station he occupied in the Society—and thus corroborated the views, which those, who had supported him, had formed, as to the best qualifications, by which a president of the Royal Society ought to be distinguished.\*

“The chair of the Royal Society has been filled by a rare succession of illustrious men, and I feel proud that I have been judged worthy, upon any grounds, to occupy a situation which has become dignified by its association with the names

\* In my publication of 1830, on this matter, I entered fully into the consideration of the necessary qualifications for a president of our Society, which, I contended, need not be exclusively scientific.



of those who have conferred so much honour upon our country. It is indeed true, that I can enter into no competition with such predecessors, as respects scientific knowledge, which my early education, my public occupations, and even the duties of my rank have prevented me from cultivating and attaining to that extent I could have wished : but I should do no honour to your kindness, which has placed me in this high and dignified station, if I should profess that I considered myself wholly inadequate to the efficient discharge of many, at least, of its public duties, or that I felt my occupation of this chair was likely to prove injurious either to the credit of the Society, or to the advancement of science. If such, indeed, Gentlemen, were my own persuasion, I would not continue to fill this honourable post for another hour.

“ The ostensible duties, in fact, of your president, are chiefly ministerial ; he is your organ to ask and to receive your decisions upon the various questions which are submitted to you ; and he is your public voice to announce them. Though he presides at the meetings of your council, he possesses but one voice among many ; incurring an equal responsibility in common with every one of its members. He is your official representative in the administration of the affairs of the British Museum : he presides in your name, by virtue of your election of him, at the Board of Visitors of the Royal Observatory, as appointed by His Majesty’s warrant : he is your medium of communication with public bodies, and with the members of the Government, upon the various subjects important to the interests of science, which are either submitted to your consideration, or which are recommended by you, through your council, for the consideration of others. For many of those functions, I feel myself to be somewhat prepared by my habits of life, as well as by my public occupations : and for some of them more especially, if I may be permitted to say so, by that very rank in which Providence

has placed me, as a member of the Royal Family of this country ; for though it would be most repugnant to my principles and my wishes, that the weight of my station should in any way influence the success of an application, which it was either improper to ask, or inexpedient to grant, I should feel it to be equally due to the dignity of this Society, and to my own, that the expression of your opinions, and of your wishes, should experience both the respect and the prompt attention to which it is so justly entitled.

“ But while I should consider it my duty to exert the just authority of an English Prince in the assertion of your rights, and in the promotion of the success of those objects, which you may intrust to my advocacy without these walls, yet, within them, I trust, that I never have made, and that I never shall make use of it, either for the promotion of party purposes, or for the suppression of the candid, free and unbiassed expression of your opinions. In this chair I appear as the official head of a Society, comprising a great majority of the most distinguished men in science and in literature within the three kingdoms, and in this character alone, I wish to be recognized ; and, it is my most anxious desire to witness around me the free expression and interchange of opinions, subject to no restraints, but such as are requisite for the regularity and well government of every numerous and mixed society.

“ I do not think it necessary, Gentlemen, to apologize to you for thus enlarging upon topics, which, though personal in some respect to myself, cannot be altogether destitute of interest to you ; inasmuch, as it undoubtedly concerns you to understand distinctly the principles by which I have regulated my conduct hitherto, whilst filling this chair, and to which I shall continue to adhere, in case I should be honoured by being re-elected to it. And I am the more anxious that they should be generally known, in consequence of some

circumstances which attended my election last year. If any angry or uneasy feelings were called forth upon that occasion, I can assure you, that I do not, nor ever did, partake in them; and it would be a source of the most heartfelt pride to me, if I could witness their entire extinction, in a cordial co-operation amongst all our members to promote the advancement of science, and the common honour of our country; to fulfil, in short, the solemn obligation imposed upon us, individually and collectively, by our charter; to promote the good of the Royal Society, established for the advancement of natural knowledge; and to pursue the ends for which it was originally founded."

One truly important measure, affecting the very frame of the governing body of the Society, which the council have had to discuss and dispose of—was the manner in which the multifarious duties, connected with the internal management of the Society, were to be carried into effect—in fact, to determine who should be the executive of their legislative enactments.

The two secretaries, who have been from time immemorial the executive ministers of the council—finding, it is to be presumed, their duties too onerous, an assistant-secretary was appointed, to aid them; and in process of time, an assistant to the assistant-secretary was added to the list of salaried executive officers. This *état major*, with the foreign secretary, entailed on the Royal Society an annual expenditure of nearly SEVEN HUNDRED POUNDS per annum! What it performed of useful servitude to the Society for that sum, there is no positive means of ascertaining: but in this state, the reformed council of 1830, and the new president, found the department in question, and in that state they left it for four years—or until after the anniversary of 1834.\* In the month

\* See the treasurer's printed reports, for 1831, 1832, 1833, and 1834.

of November of that year, (27th inst.), Mr. Hudson, the assistant-secretary resigned—whereupon, a committee was appointed, on the 10th of December, 1834, to take into consideration the question of a successor to Mr. Hudson, and whether the business of his department might not be carried on, with equal effect, upon a more economical plan. This committee made their report on the 8th of January, in the succeeding year, in which they recommended that one person only should be employed in the secretariat, or working department, as assistant, instead of two—that such a person should be *tout bonnement*, a clerk, to be so called—and that, in order to take care of the library, a librarian (a charge deemed useless by previous councils, who abolished it, and for very good reasons), should be appointed, with a salary, to act under the superintendence of the library committee, named within the council.

This report was agreed to, and its several suggestions adopted, with the exception of the title proposed to be given to the successor of Mr. Hudson, which it was decided should continue to be that of "Assistant-Secretary," with duties precisely the same as those which are enumerated in Chapter X. of the New Statutes. Accordingly, a librarian was named on the 2nd of April, 1835, with a salary of £50. per annum, whose duty is to enter all the books received, and attend the library for a certain number of hours on two days in the week—and an assistant-secretary with a salary of £160. per annum, with apartments in the house, coals, and candles; for which the council stipulated, in as many words, that the *whole of his time* should be devoted to the service of the Society. Here, then, we have a *prima facie* case of economy effected by the council—in the reduction of no less a sum than £224. 12s. for the expenses of the secretariat department, as thus :—

Expenses of the Secretariat of the Royal Society.	In 1834.	In 1835.
	£. s.	£. s.
Senior Secretary - - - - -	105 0	105 0
Junior Secretary - - - - -	105 0	105 0
To ditto for Index making - - - - -	5 5	5 5
Foreign Secretary - - - - -	20 0	20 0
Assistant Secretary - - - - - £250 0	434 12	160 0
Board wages for Servant to ditto - - - - - 30 0		
Assistant to ditto - - - - - 100 0		
Gratuity to the 2nd Assistant - - - - - 54 12		
Librarian - - - - -		50 0
Totals -	£669 17	445 5
Difference -	- -	£224 12

If the business of the secretariat department be at present transacted in the same efficient manner in which, we will assume that, it was transacted before 1835—it would appear that the council allowed four years of their reformed administration to pass (years during which the treasurer stated that the expenditure considerably exceeded the income of the Society), in each of which, they might have effected a saving of £224. 12s., amounting to a total sum of £898. 8s. It might, therefore, be asked of them—why did they hesitate so long in adopting so advantageous a reduction? But the question of shillings and pence, after all, is not the most important, even though the sum be large. It is the efficiency, and let me candidly add, the honesty of the measure with which those who have elected the council have to deal, in discussing with them this important topic. Mr. Robertson\*

\* My personal acquaintance with this gentleman is purely official, and until I found it necessary to attend, day after day, in the apartments of the Society to consult books and papers for the compilation of my present statistical history of the Royal Society, my conversations with him were purely accidental. During my visits I thought it my duty to inquire into the nature and extent of the services he had been called to perform since his recent appointment; and as those visits generally lasted two and three

was, for some time, assistant to the assistant-librarian, for which he received a salary of £100.—he was also appointed to aid the gentleman deputed to compile the catalogue of the Society, Mr. Panizzi, of the British Museum (a learned person, eminently qualified for that task), and for that service he received (minute of council, 18th of November, 1832) the additional yearly gratuity of 50 guineas. Mr. Roberton, therefore, received £154. 12s. yearly for his services to the Society, which must have been what they now are, *minus* all the services which his *principal*, the assistant-secretary, Mr. Hudson, (according to Chap. X. of the Statutes of 1831) was expected to perform, and did perform until November, 1834—and which services cost the Society £280. But the services of that principal, so paid, and which required a distinct person to perform them, *with an assistant*, are now imposed wholly and collectively upon the assistant alone; and the recompense, which for a period of four years was deemed a proper one for those services when performed by Mr. Hudson, assisted by Mr. Roberton, amounting to *two hundred and eighty pounds*, has dwindled into a recompence of only *FIVE* pounds and eight shillings a year, now that they are performed by the unassisted individual who succeeded Mr. Hudson; for Mr. Roberton's salary of £154. 12s. per annum, has been raised, in consequence of that succession, to the *LARGER* sum of £160.! Reader, mark it well. The contrast is truly preposterous! Chapter tenth of the statutes defines, in not fewer than twelve sections, the duties of the assistant-secretary. These duties were wholly to be executed by Mr. Hudson for £280. per annum. The same duties are now to be performed by Mr. Roberton, who assumes with them the title of assistant-secretary (minute of council, 2nd

hours, stolen from my other avocations, I had a good opportunity of seeing fully into the question, which I have here presented to my readers, of my own free will, and not at the suggestion of the individual alluded to.

of April, 1835), and who has *his former duties besides*, for an addition, to the salary he already received, amounting exactly to FIVE pounds and EIGHT shillings! What are the conclusions to be drawn from these strange numerical facts? Either that the duties performed by the former assistant-secretary, individually, were so trifling, that a person who had only been his assistant can perform them at the smallest possible cost to the Society—in which case there has been a waste of upwards of eight hundred pounds in the last four years; or, that the duties were so onerous and of such responsibility, that the money paid for them was not a tittle too much:—in which case, the present assistant-secretary must either perform those duties badly, for very little money—or, if he performs them strictly and efficiently—he is most unfairly remunerated. By the first alternative the Society's character must eventually suffer—by the second, its sense of justice is placed in jeopardy.

I might be told, in reply, by the council, that in reality Mr. Robertson receives sixty pounds a year, and not five, for the additional duties imposed upon him since the resignation of Mr. Hudson—inasmuch as his real salary was only £100.—and the £54. 12s. (or a guinea a week) were a gratuity for the specific service of aiding in making the catalogue of the library, which would eventually have ceased. Truly so—but for the last three years Mr. Robertson did receive that gratuity in addition to his salary; while the assistant-librarian, Mr. Hudson, had £280. for his services—and he would have received it in the present year also, had no change taken place; inasmuch as the same operation for the catalogue of the library is still going on. So that, in reality, Mr. Robertson's pocket, since the alteration in his department, has only been benefited to the tune of five pounds and some odd shillings, as I before asserted. Besides which, take it as you list, is it fair that services, requiring *two* persons to perform them

properly, for which £380. were not considered too much, should now be held to be fully remunerated, by thirty pounds less than the half of that sum a year, when equally well performed by a *single* individual? The least that the council could have done, in this case, would have been to have continued to Mr. Robertson the gratuity of one guinea a week for assisting Mr. Panizzi, as long as he continued that service—and I have reason to believe that such a mark of attention would have satisfied the present assistant-secretary.

Some one less acquainted, than I have an opportunity of being, with the arrangement of the attendance in the library, might object to the fullness of my argument in favour of Mr. Robertson, that he has not that part of the duty to perform which Mr. Hudson had to perform as librarian, and which duty the council have since devolved on another gentleman. But a single observation will answer that objection. The librarian alluded to is bound to attend, and attends only two days in the week, from twelve till four o'clock : on the other hand, the council *have ordered the library to be opened every day*, Sundays and holydays excepted. Who then, in the name of good sense, is to take care of the library, when open, on the days on which the librarian is absent (four in number)—and attend to the wants of the fellows who visit the library? Why—unquestionably the assistant-secretary, who, besides that troublesome duty—the cause of constant and perpetual interruption—has the following practical services to perform. In the first place, he is to be constantly in attendance at the Society's apartments from the earliest hour in the morning to the latest in the day. During the longest portion of the time during the last three years, his evenings also have been devoted to the making of the catalogue with Mr. Panizzi;—no provision, therefore, has been made for that degree of relaxation and exercise in the open air, which every one demands for



the preservation of a sound intellect, and sound health. It is not difficult for a medical man to predicate, what the result will be, if such a system be much longer pursued, without any alteration. The assistant-secretary keeps *all* the books of the Society—writes out the minutes of the ordinary meetings, and enters them fairly into a journal-book—he transcribes the minutes of the council-meetings and committee of papers, and of all other committees, reports, and abstracts of papers read by the secretary, the names of the visitors, &c. He has to copy all the letters into a book, written on business, by the officers of the Society.\* He is to make indexes to all the journals, and minutes-books. He enters in a book, provided by the treasurer, all sums he may receive on account of the Society. He keeps an account of the number of the Transactions printed, and of those that are sold. He records the volumes of the said Transactions, which are delivered to the fellows, in a special book; and registers, in another, the title of all the books borrowed from the library by the fellows. At each ordinary meeting, he prepares a list of the various presents to be laid before the Royal Society, describing the title of them at full length; and he attends each ballot to receive the votes of the fellows present; while, for the anniversary meetings, he has likewise to prepare in a book the audited accounts of the treasurer, and to copy the general report of the council. He makes two daily meteorological observations—and, four times a year, he voluntarily makes them hourly for the space of 37 hours—on which occasion, of course, he does not retire to rest. These observations are now communicated, by order of the council, to the *Athenæum*, *Literary and Scientific Journal*. He prepares and dispatches all summonses, to the fellows generally, to the members of the council, and to those of the several committees. The list of the fellows is in his peculiar keeping, and he is to receive and

\* Ordered by a minute of council, 10th May, 1832.

make, from time to time, all such alterations as may come to his knowledge, and draw up a corrected one for the ensuing year. The printing of the proceedings of the Society for the fellows generally, a duty which is of recent creation; and that of the abstract of the minutes of council, for the use of the members, another duty of a still more recent institution, are entirely confided to him, who is to prepare the same, submit them to the senior secretary, and send them out addressed to the respective parties, for whom they are intended. In addition to all which duties, the assistant-secretary is constantly liable to be consulted, at all hours, by the fellows, who necessarily take him from his other occupations; and he has often, moreover, been summoned to attend one or other of the secretaries at their residence on official business. Besides which, he is expected to make up boxes or parcels, and direct the same, containing the Transactions, destined as presents for foreign academies and foreign members, of which there are 62 of the former, and 48 of the latter; and this operation, more fit for a porter than an assistant-secretary, which occupies several days, occurs, at least, twice in each year. All these several duties, the present assistant-secretary contrives, single-handed, to perform; and I believe, there is but one general opinion, as to his performing them to the satisfaction of his employers; though I am quite convinced, that he performs them at the expense of his health, for they are too incessant—too multifarious—and too onerous, for any one individual.

If such, then, be the extent of the duties devolved upon, and executed by, the assistant, what is there left to be performed by the two principal secretaries of the Society? Truly, it is a question speedily dispatched. They attend the ordinary and general meetings, and every council-board, whether sitting as council, or as a committee of papers, or as a general committee for a specific purpose. At all these meet-

ings, it is expected that they shall draw up minutes of the proceedings in the rough—which the assistant-secretary, as we have seen, has to copy into the respective journals, or books. But I have had occasion to see, more than once, that, at the ordinary meetings, the duty of drawing up the minutes of proceedings, even, has been left to the assistant-secretary. I may mention, in particular, the meeting of the 17th of December last, the minutes of which I requested to see, two days after, for a particular purpose—when no record whatever of that meeting could be produced in the hand-writing of either of the secretaries—the assistant-secretary understanding that he was to draw up, and enter, the minutes of the proceedings of that meeting, from what he knew of them himself; although that might be little or much, according to the occupation he might chance to have had at the time, which keeps him often constantly on the move, and often out of the meeting-room. I will not say *ex uno disce*, for it is likely that such an occurrence is rare, rather than frequent: still it shews that, occasionally, the principal secretaries have less, and the assistant a great deal more, to do, than their respective duties. Well, then, besides these minutes of attendance, the junior secretary has to read all letters and papers communicated to the Society at the ordinary meetings—and the senior, to make and read abstracts of the said communications. To this, and no more (I say it under correction), their duty extends: and for this they receive, conjointly, TWO HUNDRED GUINEAS yearly. The junior secretary, who has much less to do than his senior, inasmuch as on the latter devolves the duty of abstracting the pith and marrow of every paper which the other reads—has moreover, a gratuity of five guineas per annum for compiling the Index to the Transactions. Not the general Index, which the fellows may have chanced lately to have seen, embracing a period of several years, and which was drawn up by a stranger, who was paid extra by the Society; though,

unquestionably, the said Index ought to fall to the duty of the secretaries.—No, but for the Index to each volume of the Transactions. Thus, for example, the junior secretary received five guineas for the Index to the volume for 1835, which occupies three pages, and consists of about fifty-two heads of references. He has, therefore, received at the rate of two shillings for each reference, and consequently, has been more liberally rewarded for his *manual* labour, than has been either Professor Faraday or Professor Lyell for their highly *mental* labours—in writing the Bakerian lecture, which is paid annually the sum of FOUR pounds! *Badinage à part*: this paltry perquisite of five guineas the assistant-secretary ought to receive, who is perfectly competent to do the Index in question in the course of a couple of hours. I am convinced that the present beneficed secretary himself, would be the first to accede to so fair an arrangement, if the council were to propose it to him.

In what I have now advanced on the subject of the secretaries' duties and their rewards, my object is to speak to the nature of the offices—and not the officers themselves. *They* take things as they find them. Their predecessors did as they do—and in their conduct they are entirely guided by systematic laws, not made especially for them, but for all who may occupy their places. They will, therefore, not take to themselves the gist of my observations;—for to attack, either directly or by insinuations, persons who justly enjoy the esteem of their co-fellows in their private and scientific character—can neither be my object, nor my inclination. The system itself is bad—it works badly—and *gives general dissatisfaction*. Hence it would be desirable, even for the sake of the present occupants of the secretaryships themselves, that it were reformed.

In speaking of the secretariat department, I have avoided saying any thing of another of the officers belonging to it, whose

duties are much less nominal, at present, than they used to be at all times, previous to the election of the gentleman who now fulfils them. I allude to the foreign secretary. Nor should I probably have said a word on the subject, were it not for a minute of council which I met with in the minute-book for 1835—by which it is ordered, that all letters written by the officers of the Society, in future, should be in the English language. It is well, that the council of the Royal Society of London should be ambitious of spreading abroad the knowledge of their language—and it is probable, that in addressing many of the Foreign Societies for an interchange of knowledge, they will meet with persons capable of interpreting their communications so written. But it certainly would tend to expedite and to increase the intercourse in question, were the letters addressed abroad, written in French, German, and Italian. It is for that purpose that the Royal Society has always had a foreign secretary—and the varied talents, as a linguist, and a bibliographer, as well as a scientific man, of Mr. König, ought rather to have been encouraged and extensively employed—than checked, or, to say the least, fettered, by such a resolution, which I imagine can only apply to him, and not to other officers, who, it is to be presumed, always do write in English. It would do the council good to inspect the MS., *Liber Epistolaris*, of one of the first secretaries of the Royal Society, which was presented by the Earl of Morton to our library—and which exhibits that officer, Mr. Oldenburgh, in the light of a most assiduous and indefatigable man in the service of the Society—possessing great knowledge and scientific information—classical learning—much facility of composition, and a mastery over several of the modern languages, as well as of the Latin tongue, in which he has addressed several letters to both English and Foreign correspondents of the first eminence, among whom was Milton. Though a foreigner, he appears

to have written the English language with neatness and facility.

I have purposely extended my observations on the secretariat department in general—because of its importance, and the peculiar condition in which it is placed—a condition wholly unfavourable to the successful progress of the Royal Society, and which might not have struck the council or my readers with the whole force of its singularity, had I not thus condensed, into one form, all its several and anomalous circumstances. That these exist, as such, is not the president's or the council's fault—but it will be so, if those circumstances remain much longer in existence after the present exposition.

I have yet one subject more to touch upon, in regard to the present topic, referable to the councils of the Royal Society, before I pass to the last and concluding portion of my present undertaking. It is the consideration of what they have done, since the great Movement of 1830, for the promotion and advancement of science. I have carefully perused all the records that could supply me with the necessary information on this subject; in order that I might ground my statements on facts, and thus render them authentic, as I have endeavoured to do throughout this work. The information, I grieve to say, is scanty—and the endeavours made for the advancement of science, or, for “improving natural knowledge,” by the successive councils since 1830, have been few and feeble—and some of them incomplete.

1. The council have the merit, in the first place, of having encouraged, and completed, the operation of a committee which had originally been appointed for superintending the manufacture of glass for optical purposes, under the direction of Professor Faraday. After that gentleman had presented the result of his researches in the Bakerian lecture—the council appointed a committee to ascertain how far the glass,

so made, was fit for telescopes. The report of that committee I have already alluded to in another place, as well as to its recommendation, that Mr. Faraday should instruct some person to manufacture the glass—which recommendation, however, was declined, on very plausible grounds;—and there ends, for the present, this attempt to rival our neighbours in their forward progress as regard optical glasses. Of that committee, Sir J. T. Herschell and Sir James South, were named members—but both those gentlemen declined acting, as they had already delivered their opinions on the question.

2. The next step, in favour of science, taken by the council of the reformed administration, was to appoint a committee for the purpose of reporting on the necessity and best manner of making meteorological observations, and on the propriety of having a separate building for that purpose. In the month of January, 1831, the meteorological committee made their report, in which they urged the necessity of appointing, without loss of time, a proper person who should devote himself solely to meteorological observations, and to the taking care of the several meteorological instruments belonging to the Royal Society. They declared that no part of the present premises of the Society was fit for a meteorological observatory, and suggested, that application should be made to the King's College for an empty out-building on the east side of the terrace before Somerset House. The instruments, they said, would soon be ready, and they pressed the council to set about these measures. The council of the King's College, on being applied to for the use of the building in question, most readily granted it. The leading members of the committee, Professor Daniell and Dr. Prout, by subsequent reports, stated that the instruments were ready, and, having been interrogated as to the probable expense of fitting up the observatory, used these remarkable words in their

reply—"that as the *only experimental investigation* actually pursued by the Royal Society, as a body, is confined to meteorological observations (!!) the committee cannot hesitate to recommend the adoption of the plan they proposed, even if the expenses were likely to be much heavier than the committee think it probable." The committee had, at the same time, recommended the expediency of carrying on meteorological observations at the Royal Observatory of Greenwich, as likely to be generally important to the interests of astronomy, and to afford a regular and permanent series of results, with those derived from similar observations proposed to be made in London, under the superintendence of the meteorological committee. The peculiarities of an atmosphere, occupied by one million and a quarter of inhabitants, consuming annually more than 2,000,000 tons of pit-coal, were well worthy of the investigation which it had been resolved to prosecute. But this matter, like many more, ended in the reports and the recommendations. Those were made in the year 1831—we are now in 1835, and so far from any single measure, of those proposed by the meteorological committee, being adopted and carried into effect—the idea is now in agitation of transferring, entirely, to the Greenwich Observatory, the duty of making meteorological observations. So that, even "*the only experimental investigation which the Royal Society has actually pursued as a body,*" will soon have ceased to be in action!

Assuredly this is no evidence of the desire to promote science—when the council betray an impatience to divest themselves of the honour of contributing to its advancement! They were stripped before of half the honour of being the official visitors of the Greenwich Observatory.—They were passed over by one of the great departments of Government in the assignation of the highly important and honourable duty of preparing the Nautical Almanac.—They voluntarily



resigned the flattering distinction of being the advisers of the Crown, in the great question of Mr. Babbage's machine for calculations, which involves alike the purse and honour of the nation—and They are now about to surrender to another public department, the task of noting and duly registering, for future practical and useful purposes, the atmospheric changes, under the superintendence of some of the most able meteorologists of this country, willing and ready to afford their services!

3. The incidental mention, I have made, of Mr. Babbage's machine, leads me naturally to the next great question of a scientific nature, with which the council, since the reform of 1830, have had to deal. Early in the year 1831, one of the secretaries of the Board of Treasury wrote to the president and council of the Royal Society, by direction of their lordships, inclosing a statement of the account of expenses incurred in the construction of the machine for calculating and printing mathematical tables, which Mr. Babbage had sent in, amounting to £7192. 4s. 8d.—of which that gentleman had already received in advance £6600. The letter farther expressed the request of the Lords of the Treasury, that the Society should inspect the machine—give their opinion whether the work was proceeding in a satisfactory manner, and without unnecessary expense—and report what farther sums would probably be necessary for completing it; and Mr. Stewart, the secretary to the Treasury, farther added—that a report of the council of the Royal Society, dated the 10th of Feb., 1829, had “entirely satisfied their lordships of the propriety of supporting Mr. Babbage in the construction of that machine,”—thereby throwing the whole responsibility of this great experiment on the Royal Society, on which, in good truth, it ought properly to rest, rather than on any unscientific officials. Well, then, a committee was appointed to comply with the Treasury's request, and a

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report, signed H. Warburton, was presented to the president and council of the Society soon after, and, by them, transmitted to the Treasury, with a single reservation, which has nothing to do with the scientific part of the business. That report spoke favourably of the work in progress—recommended that the machine and work-shops should be transferred, agreeably to Mr. Babbage's wishes, to a building to be erected on purpose, on some ground at the back of that gentleman's house, for which Government should pay him a certain rent (which is the part of the report the council did not adopt)—and lastly stated, that, having consulted Mr. Brunel, as to an estimate of all the future sums likely to be required for completing the machine, until it be fit to produce plates for printing, it appeared that it would probably amount to fourteen, and certainly to not less than twelve, thousand pounds more. Thus far, then, the Royal Society had acted in character with its pretensions as a promoter of science in general, in a great scientific question, which, with a degree of deference that must have been flattering to its officers, was referred to it by the Government of the country. But the termination of this transaction, not unlike that of the meteorological question, was destined to tarnish the lustre of the previous proceedings of the council, and shew that some evil destiny hangs over every undertaking of that body, in which the advancement of science is the object. Need I say that the evil destiny, in question, is the want of reform in the *constitution and management* (not in the leading men) of the Society? On the 11th of July, of the year before mentioned, Mr. Stewart again addresses the officers and council of the Royal Society, in consequence of the death of Mr. Maudslay (who it appears was one of the official engineers instructed to watch the progress of the machine for calculating), and states, that the engineers employed to examine the machine, in question, were not recommended by the Lords Commissioners of His

Majesty's Treasury—and that, if the Royal Society deemed it advisable that another engineer, in the place of Mr. Maudslay, deceased, should be employed, their Lordships would wish to leave the selection of a fit person to the Royal Society. Whereupon the council, with an eagerness to throw off their hands scientific business, which is to be lamented, as it tends to lessen the influence of the Royal Society in the country, and with the Government in particular, —an eagerness, too, which is inconsistent with the responsibility that attaches to them as a body on this question, as before stated—resolves, that an answer should be addressed to the Treasury, setting forth, that the Royal Society considered the report already made, relative to the said machine, as final on their part, and that they have no wish that the matter should again be referred to any engineer of their recommendation: mistaking, evidently, both the object of, and the honor intended by, the letter from the Lords of His Majesty's Treasury.

4. There is but one more distinct motion, I find, on the minutes-book of the proceedings of the council, which has any tendency to advance knowledge by a spontaneous act of its members. On the 19th of October, 1831, a committee was appointed to examine all the letters and documents in the possession of the Royal Society, and to report on the propriety of publishing the same, or any portion thereof. Mr. Baily, Sir B. C. Brodie, Mr. Lubbock, and Capt. W. Smith, were named of that committee, with power to add to the number. The letters are all bound in volumes, and are, many of them, curious, interesting, and important. Some from Newton, and to Newton from foreigners of great celebrity,—the originals of which are preserved in the archives of the Society. These volumes were distributed among the several members of the committee, who carried them home. They were all returned safely some time afterwards,

and restored to their places,—but no report, or the traces of one, appear in any part of the minutes of the council—and the matter rests, where it was before it was mooted.

There is the *Telescope* Committee, which is appointed year after year, and one of the reports from which I have already alluded to, when speaking of the glass for optical purposes, manufactured by Professor Faraday—and there is also the *Excise* Committee, which has performed important service to the revenue, and received the thanks of Government for that service—and with these two more successful testimonies of scientific zeal, terminates my account (I fear it will be deemed but a meagre one) of the measures adopted by successive councils since 1830, for “increasing the reputation of the Society abroad as well as at home, through the advances in science which they have been instrumental in making.”

The reader who has followed me attentively through all these statements, will not have failed to remark, that, though few in number—and the half of them unsuccessful,—still all the endeavours, on the part of the council of the Royal Society, to act as becomes a great scientific body, originated entirely during the first year of the Royal President’s constant attendance at the council-board. His influence, therefore, at that board, must have been as great, as the effect of his absence from it is to be deplored;—since, by the records open to the inspection of every fellow, who will take the trouble to consult them, it appears, that not much more of business has been transacted by that body during the last three years, than what the merest routine necessities of the day required.

*E. Topics which constitute the Question of a General Reform.*

10<sup>th</sup> *Topic, and last.* Are there not reasons sufficiently convincing for the immediate adoption of the plan of general and total reform suggested in the second section of this work in 1830—and are there not proofs quite conclusive, under our own immediate observation, that such a plan is not only safe in theory, but gloriously successful in practice?

What advocate could have wished that he had been supplied with stronger proofs, or a fuller brief, in support of his argument—than I have found ready at hand, and, with a moderate share of sagacity in their arrangement, have been able to produce, in the course of these pages, for the ultimate success of my pleading—the unanimous verdict to which it tends—**THE COMPLETE REFORM OR RE-MODELLING OF THE ROYAL SOCIETY OF LONDON?**

When I proclaimed the immediate necessity which presented itself to the most sceptical, as I thought, for such a **CHANGE**; the anonymous writer of the publication of 1830, so often alluded to, was deemed a visionary. Most of those who had clung for years to the inner chambers of the Society, with a tenacity for office, that nothing seemed likely to overcome, contended that there was not a single alteration required—nor an improvement called for. The **CROSS LIST**, however, which settled the election of that year, brought into the field far different men—and these were succeeded by others even better—whose joint spontaneous proceedings, as I detailed them in the third section of my present work, soon shewed how much their conviction differed from that of their predecessors, with regard to the necessity which there existed for both alterations and improvements.

The principle of the proposition, and its truth, being once

admitted—and succeeding deeds having proved, that the inclination to act up to it, exists in the men who have been entrusted with the management of the Society's affairs—the question cannot now be, “whether a reform of the Royal Society be truly necessary”—but, “wherefore does it happen, that with much superior managers at the helm of the Society, than we have had for several years—inclined, and often engaged, in improving it for the last five years—the success of their endeavours has been so inconsiderable?” The answer is as plain as it is short. Because they have proceeded “bit by bit” in their operations, without one uniform system—and have not dared to grapple, boldly, with the great work of a general reformation. I will admit more in their defence—for the little success with which their praiseworthy efforts have been crowned—than they themselves would probably venture to insist upon—namely, that, as long as the form of the Society continues as it is, most of their measures for improvement become necessarily impracticable—many of them must be thwarted—and others would be considered illegal.

Such being the case, then—the subject to be next considered is, unquestionably, the best mode of remodelling the Society—having due regard to its character as a scientific body—to its financial resources—and to the rights of all the fellows at present belonging to it.

In the year 1830, keeping these various and essential points in view, I had the honor of suggesting a plan, by which the Society could be remodelled in its form and structure, without infringing on the rights of the present members, or in any way wound their feelings—by a process so simple, that it could at once be carried into effect—and with the certainty, that not only the present, but the future well-being of the Society would be secured; its character restored; and the high reputation which was once attached to the

indicative initials of its members, made again as bright and influential, as it is now tarnished and insignificant.

To that plan—after repeated reflection, during the last five years; and after watching, with that attention of which I have given proofs in these pages, the exertions of those in power for the introduction of salutary improvements in which they have often been baffled—I adhere still, and to it I refer the HEADS of the Society, and my readers. They will find it detailed in the second section, as it was published in Nov. 1830, before the anniversary meeting of that year (page 83 to 88 of the present vol.): and they will be glad to notice, that since its publication, another and a most striking example, besides those I alluded to, in corroboration of the efficiency of the plan in question, has started into existence in this country—which offers a most gratifying illustration of the superiority of the plan proposed, to any other that may have been suggested. I need scarcely add, that I am alluding to the British Association, which was formed in 1831, and which adopted the system of classification and committees, substituting only the name of *sections* for that of *classes*—and following a process, peculiarly its own, in the election of its members—which process, I know, however, will be changed for a more methodical one, as soon as the funds of that highly interesting society, shall be large enough to enable them to be more select in their choice of members.

The British Association, indeed, might become at once “the Royal Society;” if, in addition to its migratory meetings, it were to determine upon holding two meetings in London (a city at present excluded from its visitations, although its first and ruling Board be located there) in each of the months of January, February, March, April and May; following precisely the same system, and routine of operations, which give such interest and eclat to their yearly meetings—and promise to render them still more useful to science

and the Nation. It would not be difficult to predict the future fate of the Royal Society, if such a measure, as I have just hinted at, were to be adopted by a general resolution of all the members present at the ensuing assembly of the British Association in Bristol. Who would attend the dull, monotonous, and uninteresting evening meetings of the Royal Society—at which, neither distinction of scientific subjects, nor of scientific men is observed—at which, not a word of illustration is suffered to drop, or is ever heard—at which the monotony of a tame reader, struggling through the difficulties of a MS. not in his hand-writing, becomes irresistibly soporific—at which the incessant mummary of a ballot is for ever interrupting the attention of the audience—at which the never ceasing “is it your pleasure to do so and so,” keeps the chairman at the only work he has to perform at the meeting—at which the display of improper feeling in casting the stigma of exclusion on our equals, is many a time and too often witnessed—at which, in fine, nothing is done to attach and rivet the attention of the fellows and visitors?—Who, I repeat, would attend such meetings, if they could, as was the case last year in Dublin, and no doubt was the case at Oxford, Cambridge, and Edinburgh (where the Association met in previous years)—attend in this great metropolis, the sectional meetings of the British Association, each according to his inclination and taste for a particular science—take part in, or listen to its generally interesting proceedings and debates—or frequent more than one of such sectional assemblies in succession, where he would meet with some of the most brilliant luminaries of British science, casting a vivid light on every subject they touched?—Or if they had an opportunity, through their own claims, as scientific and working men, to attend the Sectional Committees, where the management of the proceedings of their respective sections is arranged, and previously discussed; where inquiries and experiments are pro-



posed, or read, and reports settled; and where questions for future investigation are suggested?—Or, if by virtue of their published contributions to scientific knowledge, they had acquired the right of sitting at the Board of the General Committee,—consisting, necessarily, of what science can boast of its most assiduous suitors, and at which he would listen with admiration and edification, to the friendly contention of eager talents, engaged in the same great work of promoting human knowledge—now carried, away by the impetuous and earnest eloquence of a Rowan Hamilton—and again sobered down by the mansuete and laconic phrases of the great Dalton; as I had the happiness of witnessing in August last at Dublin? Or, lastly, if still more anxious to learn, at once, from the lips of the respective chairmen and principals of the various scientific sections into which the association is divided, the total result of the individual labours of their particular sections—he chose to be present at one of the General Meetings of the association, where, mingling with, not a hundred, but two thousand spectators of both sexes, he will hear depicted, in a strain of eloquent, yet popular language, the nature of the several subjects which have occupied the attention of the various scientific sections of the Association, and be informed with the steps and measures which the general committee have adopted, to reward past, and to stimulate future, exertions in science? Nothing could be more glorious to British science, than the general exposition made, in the manner I have just described, of the labours of the Association during the week it sat in Dublin, in 1835, at the last general meeting of the members and their friends, which presented, even to one so long accustomed to view large and brilliant assemblages of people, in almost every country in Europe—a spectacle of the most interesting and striking character.

Such are the attractions of this new, and already gigantic rival, of the Royal Society, and such are the allurements it

offers to join its ranks. But it has, also, its solid merits, and intrinsic worth, which seduce all true lovers of science into attachment for it—I mean the production, to the world generally, of the results of its labours and inquiries—especially the general printed reports on the state of each science from year to year, and the more exclusive reports from sub-committees, previously appointed to carry on some useful scientific investigation.

All these advantages, all these opportunities for information, under its most pleasing and striking form, every member of the British Association, may enjoy, who attends its annual assembly, in a provincial town—and would enjoy equally, if that scientific body were to establish the precedent of holding a similar assembly, for a fortnight, during the Winter, in London.\* In which case, I would ask, who would

\* Not a bad idea, forsooth! Such a meeting might serve as a connecting link—to forward measures undertaken and to be reported upon—between one year's provincial meeting and another,—besides offering the great advantage to scientific men from the provinces, and to foreigners, to see the Institutions which give character to England, and are only to be observed in the capital, at that season of the year in which every body loves to congregate in this vast metropolis. It is generally felt by the members of the association who have attended closely to its proceedings in committees—that the time allotted for carrying on its *public operations* is too limited, in consequence of which, much that might be done, is left undone—or is done imperfectly. The supplementary meeting in London would be the means of obviating those difficulties. While I am on the subject of the provincial meeting of the British Association, I wish to call the attention of its principal managers, or the framers of the programme of its proceedings in each year, to the necessity of regulating, somewhat differently, the previous assembly of members, with a view of distributing to them their respective tickets, and printed statement of the arrangements made for the weekly proceedings. As it was ordained, in Dublin, last year—nothing could be more inconvenient, and even dangerous, in consequence of the great pressure of the crowd assembled in Trinity Hall, notwithstanding the capaciousness of the building. A whole day, of the precious few (six), was lost on that occasion. There are two regulations which suggest themselves, at once, as certain means of eschewing so large

care to become an F.R.S.—or, being so, would ever dream of attending the meetings of the Royal Society?

Haste, then, haste, and let us assume the garb and form, which experience, and the examples of the Institute of France, the Royal and Imperial Academies of every great Continental nation,—the Society of Arts in London—and the British Association—proclaim to be the only one calculated to save the Royal Society from (I will not say ruin, as Mr. Babbage has it), but, killing neglect; and, once saved, to render it permanently great, useful, and the real parliament of British men of science.

Let the Royal Society have a president, and a council to act with him, agreeably to the old charter, if it be wished to retain that antiquated parchment so far;—but both should be proposed by a small body of electors, taken from, and appointed by, the Society. Let there be a secretary-general, well paid—that he may be fully qualified, in every way, particularly in general science, in mathematics, and natural history—to attend to the general business of the Society, under the direction of the administrative council. An assistant-secretary, to act as reader and amanuensis, to take down the minutes of the meeting, and perform many other subordinate duties, should be present at the table of the Society. This staff would represent the authority of the Society—see to the execution of its statutes—superintend the expenditure

a deduction from the interest and pleasure of the occasion. The one is not to make new members on the first day of the meeting—but limit that concession to the week previous to the meeting. The other, is not to compel old and well-known members to attend such a previous meeting for the purpose of procuring their vouchers. These should be sent to their address in the town, which the anxious member would, for his sake, take care to make known to the treasurers or secretaries. It is farther to be wished, that members may not, in future, be made so readily. Besides some hundreds accepted as such, at the general assembly, in Dublin, last year, I am informed that nearly four hundred applications were rejected.

of its funds—and conduct, in fact, the corporate affairs of the Society. For which purpose it should have a regular office, with the regular attendance, for several hours in each day, of the secretary and his assistant.\*—The Society should be forthwith divided into Classes, as stated before (page 85)—each class should elect a committee, and a biennial chairman—to conduct its proceedings, at their meetings. An honorary secretary, such as every society in London can boast of having, would be elected in each class, which would possess the merit of knowing what he and the class are about, when assembled at their ordinary meetings. A General Committee of science, consisting of five members from each Class-committee, should be constituted as a go-between the higher or Administrative Council, and the various Committees, whose individual reports of their proceedings should be referred to the general committee of science, by whom a general *résumé*, or report of the labours of the Society, as a body, would be drawn up at the end of each year, from the reports of the various committees, to be read at the Anniversary Meeting. The secretary to the general committee of science, should likewise be an honorary officer—but an assistant, principally as an amanuensis, to keep the registers and journal-book, and copy all documents, should be appointed at the same time.

The Society would meet in committees twice a week to hear papers read—and carry on oral discussion, from eight o'clock till ten, at which hour, it should adjourn. It should meet in a general committee of science, once a month, during eight months in the year—and this same committee should transmit, at the end of that time, their general reports, to the

\* At present, I believe, that neither of the stipendiary secretaries is bound to attend daily at the Society's apartments. From December the 10th of last year, until the 6th of January, during which time I had occasion to attend the Society for a few hours every day, I never once had the satisfaction of meeting with either of those officers.

president and council, to be by them presented to the general annual assembly of the Fellows:—on which occasion—the president and council would give also an account of the state of the finances, and other affairs of the Society. After which, the election of the president and council might take place. The election of fellows into the Society ought to be through the agency of each Class, by whom the qualifications of the candidate should be examined and approved of, and the names sent forward to the general committee of science, from time to time, to be by them hung up in a general list alphabetically arranged, stating by which committee the candidates are recommended, without any individual signature or certificate; and there wait until the annual and final meeting of the general committee of science. On that occasion, the number of vacancies existing in the fixed number of fellows of the Society, being ascertained,—it would be filled up by the general committee of science, from the general list of candidates, presented during the session, by the Class-committees,—not by ballot—but *by selection*: and the candidates not selected in one year, would be allowed to stand until another election with any fresh candidate that might be recommended in succession. By this means, the number of fellows, on whose pecuniary contributions principally depends the support of the Society, would be constantly filled up,—as the newly-elected candidates might be made to pay an admission-fee, equal to the sum which the fellow whose vacancy he fills up, would have contributed in that year to the Society. It should be ruled, that the salaried secretary should abstain from voting on any, except a purely scientific question,—and never upon the election of officers, or the selection of candidates. The stipendiary secretary-general should be a permanent officer, and, as I said, well paid, in order to insure such men for the office, as Cuvier and Delambre were—the ornaments of the INSTITUTE of France.

Something like a longing for changes and improvements has, from time to time, been manifested, in the council itself, by those who thought, that the old fabric could no longer keep its perpendicular without them. As far back as the year 1674, a notion of that sort seems to have prevailed with some of the leading members of the council of the Society, among whom were Sir Christopher Wren, and Mr. Secretary Oldenburgh. But one of the remedies they proposed to themselves, with a view "to make the Society prosper," was rather violent—for it decreed the "ejection of all *useless* fellows." What would become of the funds of the Society, as at present constituted, if such a step were adopted to reform it in these times? Would not the next annual balance-sheet be nearly a blank in the hands of the treasurer?—In times much nearer to us, also, some sort of feeling of conviction was betrayed, by a few great men at the head of our Society, that a change, in the mode of admitting fellows, and in certain statutes, was desirable. Dr. Wollaston, with Dr. Young, Mr. Davies Gilbert, South, Herschel, Babbage, and others, were of that number, whom the latter gentleman honors with the title of "modern reformers." But, alas! if the feeling itself was not a farce—the proposed measures by which these "modern reformers" meant to rectify all that was wrong, were perfectly ludicrous. No wonder that my Lord Colchester (though doubtless not from half so good an intention,) should have exerted his ingenuity in thwarting and putting a stop to such measures. The panacea of Dr. Wollaston was the limitation in the number of fellows, from its then number of 714 to 400. The process by which this reduction was to take place was tolerably tedious, and would have very soon upset the strong-box of the Society. In regard to the mode of admission, however, the "modern reformers" proposed the system of *selection* (as I have done) to be put in practice once a year only;—but they spoiled

the whole, by suggesting that, after the candidates had been thus selected, they should again be submitted to a general vote of the Society ; and they presumed to think, that such a system of double-ballot would effectually have done away with the " invidious act of black-balling." The Report which those " modern reformers," in committee assembled, made to the council on the changes necessary to be effected in the Society—and from which I collect the present remarks—goes on further to suggest sundry other minor improvements, all of which are of but a secondary degree of importance—and could never, seriously, be expected to lead to mighty results. There can be no possible objection to the collecting of the names of such fellows, as have received the medals of the Society, or who have enriched its Transactions, into a separate and honorable list. None to the recording, at the end of the annual list, of those who have, in times past, received honorary rewards, or who have been large benefactors to the Society. And the third proposition, too, that of adding to the same list, a separate one, of such fellows as have been admitted or have died in the course of the year, is equally commendable. But what healing balsam to the ulcerated sores of their mother institution could these " modern reformers" expect to distil from those three measures, addressed to the vanity of the Fellows, rather than to their good sense ? I must mention, however, with less flippancy, two other measures which that report suggested—and which, had they been adopted, would have done, long ago, infinite service to the Society. The first was, the referring of each paper, read before the Royal Society, to a separate Committee, " who should have sufficient time given them to examine it carefully, and who should report, not only their opinion, but the grounds on which that opinion is formed, for the ultimate decision of the council." The second, a recommendation, that all such statutes as are newly passed, or modified, should not be

hastily enacted ; but scrutinized with the most zealous circumspection.—A recommendation which it would have been wise in the council of 1831 to have borne in mind.

At the same conjuncture, Mr. Babbage proposed another plan for the limitation of the members of the Society—that *one measure* being evidently, in his opinion also, the great *desideratum*, or corner-stone of its reform. His plan was a division of the body of fellows at large into two classes—not classes according to the scientific pursuits and taste of their members—but classes, designated by the number of papers contributed to the Transactions, or by the total want of such contributions. In the first class, Mr. Babbage would include those who had contributed three papers, as the *minimum*, and any number of papers as the *maximum*, of qualification ; and, in the second, those who had contributed nothing at all, or next to nothing. By this operation, Mr. Babbage would have a first class of about 50 members, (a class, as it were, of merit) standing aloof from the second, or miscellaneous class, containing all the *drones*, besides the few who had been only *moderately idle* in contributing to the Philosoph. Transactions. And with such a scheme Mr. Babbage, we are left to suppose, expected to effect a reformation of the Society, and the restoration of its pristine splendour ! Why, if the distinguishing of a select number of members as large contributors, be a sufficient step to produce so mighty an effect as Mr. Babbage anticipates—I can suggest a much *simpler* plan of doing it—without any risk of incurring the objection, which he supposes would be made to his own plan. It is simply to do what I have done in the present, and in a former publication—namely, to print the list of fellows alphabetically, and place by the side of those, who have honoured themselves by contributing papers to the Philosophical Transactions, the number of such papers. Who could grumble at such an arrangement ? The distinction would be there—without the mechanical



separation, which, alone, cannot enhance merit:—and the question then would be—in what manner Mr. Babbage would expect such a *distinction* to work a reform? Indeed, the prefixing the number of papers contributed, to the name of the Fellow contributor, in the general list of the Society, is a mere point of form which, by the bye, ought long ago to have been adopted, in justice to the parties—and which, I dare say, will be adopted, after this allusion to it, in the next forthcoming list. But to expect all the advantages of a French Institute from a class of fifty contributors, merely because they are marked as such—is something more than Utopian. Clever as Mr. Babbage is, he could not demonstrate mathematically the possibility of such a result.\*

Judging from this normal idea of the author alluded to, respecting the best method of reforming the Society, as well as from his eagerness for the establishment of knightly distinctions in behalf of men of science, which I had formerly occasion to mention—it is impossible not to be struck with this truth, that in revolving in his mind the best mode of reforming the Royal Society, he has looked more to the privileges and advantages which the working fellows ought to enjoy—than to the necessity of totally changing the form and

\* I would just point out one *little* inconvenience of this *simple* plan for restoring to the Royal Society its respectability. Mr. Babbage's first class (the honorary one) is to contain fellows, who have contributed from three memoirs to any number in the Transactions. Well, then, the fellow who had only contributed two such memoirs, would have to lie undistinguished among the second class, or the drones of the Society (speaking allegorically). Now let us suppose Sir W. Rowan Hamilton to cease, no matter through what cause, to contribute papers to the Royal Society, after the two he has lately contributed to the Transactions—how could the Royal Society be said to have been restored to its respectability by the establishment of a distinction, which would exclude, from its Class of Honor, the author of the two Essays on a General Method in Dynamics, to which the last Royal Medal has been so justly awarded—Essays, too, which, more than any other mathematical papers we have had for many a year, tend to raise the character of English mathematicians?

constitution of the Society as the only means of saving it from becoming extinct—as he feared and anticipated in 1830, in his volume so often quoted (page 101). And as I am, about to take my final leave of his opinions and writings, I may be permitted to express my surprise, that so talented and shrewd an individual, should not have felt the particular difficulty in which he had placed himself, when he took to sounding the loud blast of vituperation, against the many abuses which he proclaimed as cankering the vital organs of the Society, at the same time that he acknowledged himself to be a disappointed candidate for an office of emolument (page 150), which was in the gift of the president of that Society, and which he had formerly been led to expect. It does credit to the candour of Mr. Babbage, that (as he himself declares) he always talked publicly and openly of the circumstances of that case; but a reformer who asks for, or expects to share in, the loaves and fishes under a corrupt system—exposes himself to the suspicion of insincerity when he sets himself up as the contemner of that system; although, in my heart, I do consider the Lucasian professor to have been fully as sincere, as he, certainly, was candid in his exposure of that corrupt system. In this respect I may esteem myself more fortunate; and, as a pleader, for the second time, in behalf of the Reform of our Society, I stand on vantage ground—since I have never looked for, solicited, or expected—nor ever shall expect, look for, or solicit, either a favour, or a benefit from those in power, although with not a few of them I hold intercourse of friendship. This independence which I have pushed far, even in matters out of the Society, has its advantages,—and I am sensible of them on the present occasion.

There is only one more effort made by a member of council, that can at all be connected with any view of assisting in the reform of the Society, which remains to be mentioned—but which fell, a *brutum fulmen*, on the very spot on which

it was forged. I allude to the notice of a motion, recorded on the minute-book of council—if I recollect right, of the month of April, 1835,—as having emanated from a very eminent geologist. It was to this effect—“that a committee be appointed for the purpose of inquiring into the expediency of forming, from among the fellows of the Royal Society, an Honorary Body—such body to consist, exclusively, of gentlemen who have promoted science by their writings or discoveries.” The fate of this proposition has been, that it never was put as a motion—probably, because there was not one other member of the council to second it—or, because the proposer was persuaded to withdraw it. The individual, in question, never afterwards attended in his place at the council-board—and this circumstance may explain, perhaps, the manner of the fate of such a proposition. As to any mention of that fate in the minute-book, of the said council, *Page silent*. Yet, it by no means follows (nor will I believe so), that the present council is hostile to measures of reform. Now such a motion, is much in the style of the suggestions of the Lucasian Professor, all of which are evidently well calculated to raise scientific men in the eyes of the multitude, by signaling them through honorary distinctions—but are not in the least likely to begin, promote, or bring about the general and salutary Reform which the machinery of the **FIRST SCIENTIFIC SOCIETY OF GREAT BRITAIN** demands.

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### CONCLUSION.

I have now brought to its termination my historical report of the Proceedings of the Royal Society, during a period of thirty-five years of the present century—grounded on every species of statistical information which the records of the Society, my own experience, and the frequent observations

I have noted, supplied me with, on the two distinct occasions, namely, in 1830 and 1835, on which I undertook the analytical examination of such a subject. I am presumptuous enough to admit, that I consider my enterprize as likely to benefit my co-fellows, and that portion of the public, generally, who take an interest in the great questions, debated at full length in the present work, and in no other—and illustrated by the passing events I have narrated, and which have marked the modern history of our Society. Those questions were :—

**FIRST.** To determine whether **SCIENCE**, in England, has been on the decline ; or, has continued to be what it was before ; or, has made a forward movement—within the period embraced by the present history.

**SECONDLY.** To shew in what condition the **ROYAL SOCIETY** of London, considered as a great engine for the furtherance of British science, appeared to be at the time of the change which took place in its Presidentship and Council in 1830.

**THIRDLY.** To decide whether the change, so accomplished, has produced results, which are, in themselves, the strongest proof of its propriety ; and how far the absence of still more important results from it, call for a greater change.

**FOURTHLY.** To propose and discuss the nature of that ulterior and greater **CHANGE** in the form and condition of the Society.

The consideration of these several questions was well worthy of the occupation of a much more able and experienced hand than my own. It would, also, have been better treated by one whose time was not wholly devoted to the

public, and who could conveniently spare more leisure from professional engagements. All this I most willingly admit ; —but I am not equally ready, or prepared, to concede, that much more industry, in collecting facts—or a livelier inclination to do justice to merit and bow to truth—or, a greater desire to be systematically clear, in the narrative, as well as in the arguments of the subject—could be brought to the execution of the work. Of facts it contains abundance, and I am not aware that they are to be found in any other publication. In arguments, it is sparing ; for I address myself to readers of sagacity, who require but a few words to understand a question. Conclusions, it presents a few, truly ;—but they are of first-rate importance. How far the *ensemble* of all these things may constitute a work worthy of the attention and patronage of the reading public—it befits not me to anticipate.



## NOTES,

*Written in 1835, in illustration of what was published in 1830.*

*From page 11, to page 100.*

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### *Note 1—(page 12, line 15).*

It was actually maintained by the learned Judge, who tried one of the two cases of manslaughter, for which the noted and late *St. John Long* was indicted—that, in *this* country, the law admitted of no distinction between the act of a regular and undisputed quack, who, through ignorance of the art he pretends to exercise, causes the death of one of His Majesty's subjects—and the act of a regular physician (let him be President of the most learned college), who should be convicted of having, through an error in judgment, been the cause of the demise of his patient.

### *Note 2—(page 12, line 24).*

Among the Commissioners of Lunacy there was, and, for aught I know, there may be still, a noble Lord, the son of a deceased Duke, a high-mettled conservative, and not the worse for that, who has been in a great many public departments of Government, and who, at the time in which this passage was written, was positively Chairman of that Board, which the Lord Chancellor of England, and a specific Act of Parliament, empowered to decide: whether any of the inmates of private asylums, which collect cases of the most humiliating of human diseases, are or are not detained improperly. A question of such magnitude can only be determined by deep study, familiar acquaintance with physiological laws, long experience, and the keen and quick eye which scientific knowledge alone can give. How far a Nobleman, amiable though he may be, and a man of business as he is justly acknowledged to be, but brought up principally at the Treasury Board, can direct such an investigation, and decide after it, is left to the reader to imagine.

*Note 3—(page 12, line 30).*

The Officers of the British Museum know full well, that such has been the case in more than one instance, and more than one department. Fortunately for the public, the individuals so favourably treated, before they were qualified for the situations, have since, and in the course of years, it is said, gained all the necessary information, which enables them to discharge their respective duties. The nation, therefore, is, at present, no loser by their appointment.

*Note 4—(page 13, line 5).*

It was Sir Robert Peel, who, while Minister for the Home Department, encouraged that long and curiously-conducted inquiry into the question of the supply of water to the metropolis by the several Companies; and who, after the report of the various committees, the opinions of the most experienced individuals, and the general admission of the abuses detected by that inquiry, suddenly stopped short of his apparent original earnestness to afford relief to the complaining public, and declared that Government could go no farther. In the like manner, the same Minister of State encouraged the reasonable, temperate, and regularly-conducted exertions of the Obstetric Society of London (of which I had the honour of being the proposer in 1825, and over which presided Sir Charles M. Clarke,) made with a view to obtain from the Legislature legal protection to a branch of practice (midwifery) to which none had ever been extended—and to compel the Colleges of Physicians and Surgeons, and the Apothecaries' Company, to consider midwifery as entitled to the same regulations and privileges which were conceded to every other branch of the medical profession. Sir Robert was, for he is so by nature and education, extremely condescending, *empressé*, and ready to admit the truth and justice of the case made out by the said Society, both in their correspondence and memorial, as well as at a personal interview with a deputation from it, at which I was present. He afforded us every facility for the attainment of a certain part of our prayer—but farther he declined to go; and midwifery remains still, in point of law, a branch of practice in which



any person, a barber or a laundress, can embark, and commit blunders fatal to *two* lives at once, without the fear of the laws against quackery. I cannot resist, in this place, the pleasure of publicly acknowledging how much the Society, on that occasion, was indebted to the perseverance, ability, and unwearied zeal of its chairman, the learned Baronet and physician, whom I have already mentioned. Do I blame the Right Honourable Statesman for these two examples of imperfect support to science! No.—We do not lightly blame the man whose private character we esteem, and whose public talents we admire. It is the system I condemn, which can induce such a statesman to think, that his power of interference, in behalf of science, is beset with insuperable limits.

*Note 5 (page 13, line 29).*

Mr. Babbage says, "the pursuit of science does not, in England, constitute a distinct profession, as it does in many other countries."—and again, "There exists, with us, no peculiar class professedly devoted to science." These are not correct representations of the case. What other profession but that of a purely scientific man, for both honour and bread, did Faraday educate himself for—or, were Brande, or Daniel, educated? They, and two hundred more, have settled themselves down comfortably in the world by science, and through science alone? These *questions* are the best *answers* to Mr. Babbage's assertions.

*Note 6 (page 14, line 16).*

The acquisition of an immortal name, however, is not likely to be the only recompense which awaits the inventor of the Machine for Calculating, if we are to judge by the tenor of a letter addressed by Mr. Stewart, one of the Secretaries of the Board of Treasury, to the Council of the Society, in 1831, from which it appears that the Government had already, up to that period, made advances to Mr. Babbage to the extent of *six thousand and six hundred* pounds, including the payment of bills to the individuals employed in the mechanical construction of that machine. (Minutes of Council, 1831—see Sect. 3d, p. 205).

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*Note 7 (page 15, line 10).*

Every one conversant with the history of modern science, will guess at the allusion made in this and the following passage. Wollaston is acknowledged to have realized considerable wealth, by keeping secret, to the day of his death, the process of rendering Platina malleable; a process which, but for the hand of a friend, might have perished with the inventor. Davy, on the other hand, by disclosing at once the secrets "he had torn from nature, and by allowing mankind to participate with him in his discoveries, spurned wealth, but secured to himself a splendid reputation which nothing can tarnish." Mr. Babbage has made many pointed and pertinent remarks, like these, on the conduct of the Philosopher, just mentioned, and on the great distinction which ought to be made between it, and that pursued by the former. Justly does Mr. Babbage condemn the award of the Copley medal, made by the Royal Society, to Dr. Wollaston, for his *secret discovery*. (Babbage, page 131, *et passim*.)

*Note 8 (page 15, line 31).*

The lapse of five years has strengthened my argument on this question against Mr. Babbage's assertion; and I am confident that, as a man of candour, he will himself be ready to admit, that his remarks on the depreciated and forlorn condition of an English philosopher, who shall have won a station high in the ranks of European science, are now inapplicable. Provided the philosopher be but what Mr. Babbage describes him, his remuneration will not be "as paltry as that of a clerk." Mr. Faraday is unquestionably that philosopher. Has not science well requited him for his splendid discoveries, and midnight vigils, in pecuniary appointments, and a Government pension amounting, *at least*, to seven hundred pounds a year? Not a stiver too much indeed! And what continental *sçavant*, of the very highest rank, I would ask, can Mr. Babbage produce who is so liberally endowed? Mr. Babbage must have learned, within the last few years, that Mr. Faraday is not a solitary instance of this improved state of things, in regard to public rewards granted to men of science.

*Note 9 (page 18 line 7).*

It will have been seen from a perusal of the introductory matter of this volume, that an allusion is here made to the then existing circumstances of the Royal Society (the supposed representative of British science) being without a President.

*Note 10 (page 23, line 12).*

This was written in October, 1830. Since then the public have had an opportunity of enjoying the high treat, which Dr. Paris has afforded them, in his interesting account of the life and writings, and discoveries of Sir Humphry Davy; and it is not too much to say of it, that it is creditable to the author, as it is also a full refutation of those who sneer at the state of science in England in the present century.

*Note 11 (page 24, line 17).*

I protest that this passage was never intended as a personal reflection on the individual in question, whom I know to be capable of better things; but it refers to the system generally prevailing in most public Institutions in England. What original, important, and comprehensive works on natural history, worthy of being called *National*, have been produced in this country by any of the curators or professors of our public Museums and Universities? And yet, many of them possess well-gifted minds, and are masters of their subject. The Professor of Zoology, in the University of London, is a brilliant specimen of the latter species. Why does he lie in *hybernation*? The individual principally alluded to in this note, his principal, and his other colleague, can, and might, yield more important services to natural history.

*Note 12 (page 24, line 30).*

I lay claim to some little merit in having, as I humbly conceive, been the first who pointed out the true and original cause of the first

fatal shock which the Royal Society sustained in its days of glory. Mr. Babbage has not even hinted at it—but every attentive inquirer will see that it is “a palpable hit.”

*Note 13 (page 27, line 32).*

Since 1830 the Geological Society has assumed a much more imposing character, and raised the science which forms the principal object of its researches, to a high degree of respectability. It is, I believe, conducted on wise and popular principles, and it affords the highest gratification (to one who was closely united with the early founders of that Society, in which, for five years, he served the office of Foreign secretary), to be able to pay them a just tribute of praise. But in proportion as this Society—this third branch lopped off from the parent trunk—flourishes and absorbs to itself all the geological information to be obtained in the country—so does the Royal Society suffer more from so important a defalcation. The papers connected with geology, mineralogy, and fossilogy, at the Royal Society, in the last five years, have amounted exactly to nine in number, of which five only were deemed worthy of publication. (See 2nd analytical table).

*Note 14 (page 28, line 30).*

What may appear personal in this passage, will not, I am sure and hope, be construed as such,—when I declare that I never knew, nor to this moment do know, the individual to whom geology is indebted for the singular *exposé* contained in the review in question. The assertions of the writer were there, and thus spoke his character sufficiently clearly. It was impossible to pass any other judgment on them;—and he was classed among the *clamorous*, because it was supposed that, as he appeared to be one of the least scientific, by his essay, and as the least scientific alone were known to be the *clamorous* in that Society—his station among *them* was naturally assumed. After all, to be accused of making *tant soit peu de bruit* in this world, is not to lie under a very formidable charge.

*Note 15 (page 29, line 13).*

Very few, perhaps, of my readers are aware, that some thousands of pounds have been expended, year after year, in determining the limits of the two respective dominions in America, belonging to Great Britain and the United States. Dr. Thiarks, whom the *older* Fellows of the Royal Society will recollect with pleasure, as an assistant private librarian to Sir Joseph Banks, and a gentleman of great mathematical talent and unbounded modesty, was for many years employed in the commission appointed for that purpose.

*Note 16 (page 30, line 9).*

Such was actually the language employed by the late Mr. Nash, to whom I had at first suggested to convert the largest portion of the Regent's Park (then in progress of formation) into a great zoological and botanical establishment, combining instruction with the amusement and gratification of the public, on a large scale. Finding that we disapproved of the smallness of the plot of ground which, he said, he was authorized by Government to offer to a society for zoological and botanical purposes, and which he pointed out to us on the map, spread on the table after dinner,—Mr. Nash rolled up his map again, swallowed his last cup, and politely left us to regret, that an object of such national importance could not be carried into effect, owing to the mistaken estimate which had been formed of its value. Besides the late Dr. Latham, President of the College of Physicians, and a naturalist, the meeting had the advantage of the presence of another physician, equally a lover of natural history and botany, Dr. Maton, whose loss the Society has lately had occasion to deplore. But there is yet another living witness to that characteristic meeting, (and I trust many more of those whose names I do not now recollect,) I mean Professor A. T. Thomson, of the University of London, who, like myself, lamented to have witnessed the failure of a scheme, which Sir H. Davy and Sir Stamford Raffles were more successful in carrying into effect several years after.

*Note 17, (page 31, line 4.)*

But the catalogue of societies does not terminate here,—the establishment of which must inevitably contribute to paralyze the Royal Society. The Geographical and even the Statistical societies formed since my former publication ; the Entomological and Mathematical, which I had on a previous occasion omitted to notice ; and the Society of Arts, which it would be great injustice to pass over in silence, have all steadily, though not intentionally, aided in plucking as many rays from the halo around the Royal Society's brow, by the very exertions which, with praiseworthy zeal and eagerness, each, in their individual capacities, has made to become great and useful. For, inasmuch as every exertion on their part, which secures the votaries of each particular science to the service of the Society that cultivates it, removes from the parent bosom as many children, and deprives it of their labour,—so does it lessen its glory and its value. But perhaps the most gigantic and powerful assailant of the Royal Society that has ever appeared in the field, though not under proclamation of such character, is the recently constituted British Association. It requires but little foresight to predict, that unless the Royal Society adopts the plan of reform which I suggested in 1830, and suggest again now, and which plan embraces the leading features of the organization of the British Association, founded some time after,—the latter will usurp the station and national predominance of the Royal Society, for which purpose it has only to adopt the simple additional measure of having, during the Winter season, six or eight periodical meetings in London, besides the weekly migratory meeting, held annually with so much success. But, on this subject, I have dilated more at length in the third section of the present volume.

*Note 18, (page 32, line 7.)*

There are several assertions in this description of the Royal Society as it was in 1830, which I have put hypothetically, because I did not entirely subscribe to the truth of them at the time, nor do I now ; and there are other assertions in it, which were convincing, true, and in-

dubitable. Fortunately much, very much, of all that is charged in the second part of this passage, has been altered, removed, and, as far as the means and moral courage for so doing existed, has been improved. The constitution of its councils, since that time, has been unimpeachable. Idlers in the number of their members there have been none, or very few, and the elevated degrees of science, of the present day, have been fairly represented in that body. This is a cheering circumstance for the present honest well-wishers to the Society, who look to such men with confidence, for the adoption of liberal and effectual measures of reform and final improvement. For wherever a true man of science is called upon to act, he first begins by discarding errors, and next, tries to promote improvement with a liberal hand.

*Note 19, (page 32, line 19.)*

I trust that the circumstance of my having addressed the Royal Society in the feminine gender, for the sake of a neater turn of phraseology, which was adopted with the utmost innocence on my part, will not be construed into an insinuation allusive to the elderly portion of that sex. I protest solemnly against such a construction—certainly not justly applicable at the present time.

*Note 20, (page 33, line 21.)*

Unquestionably the separation into classes, marked by the pursuit of their members—and the statement annexed to such classes of the number of scientific papers yielded by them to the common stock of the Society, was the fairest mode of judging analytically of the intrinsic merit of that Society as far as its composition. It is an easy matter to pass a sweeping sentence against the Body at large—but *ferat qui meruit palmam*, and let that point be decided by the inspection of such documents as I have here produced—drawn up at considerable labour.—I abstain from all personal observations on the recital of such facts, because they will suggest to every impartial reader more than I might say, were I disposed to speak. For the same reason, I have, in the third section, continued the same plan—so that, for 35

years, every one has now the means of judging who are the really scientific and working men of the Society. This mode of presenting the list of the Fellows—and the exhibition of all the subjects of the papers read in an analytical table,—are the two operations on which I ground some little expectation, that, as a matter of reference in studying the history of science in England, they will be considered as new, original, and exclusively to be found in this work.

*Note 21—(page 45, line 14).*

The publication of the annual catalogue of the fellows, candidates, and licentiates, as they are styled, of the College of Physicians, in the present year, enables me to enlarge a little on the curious information given in this page five years ago. It appears, then, by the last "Catalogue," that there were on the list, in 1835, 116 fellows, 4 candidates, 17 inceptor candidates, and 269 licentiates; I say nothing of the "extra licentiates." Of this number, there are 71 fellows, candidates, &c. who are resident in London, of whom 59 only are known to be in actual practice—and 120 licentiates, likewise residing in London, 92 of whom are in actual practice also. So that the total number of really practising physicians in the metropolis, amounts to one hundred and fifty-one. Assuming the population of the metropolis to be one million and a quarter, we shall find that there is one physician for every 8278 inhabitants—ergo, it is 1 to 151, that any of these physicians are employed by that number of inhabitants from mere necessity and chance,—supposing *merit, fashion, humbug, and quackery* to be out of the reckoning. Well, then, out of the list of the M. D.'s who were fellows previous to 1830, and who have since been diminished in number, by deaths, from 79 to 68; and of those who have been elected since 1830 down to Nov 1835, amounting to 18, we find, on the general aggregate of them (86), that twenty-five only have contributed papers "towards improving natural knowledge"—and that one only, out of 14, London physicians, who are F.R.S.'s, have manifested symptoms of philosophy, as far as relates to that great emporium of science, the Philosophical Transactions.



*Note 22—(page 51, line 28.)*

It is a pleasing task, which I fulfil most readily, to have to augment such a glorious band of men, well known in the scientific world for their researches and discoveries, whether as fellows of the Society, or as labourers in the general field of science, with not a few others, who have either made themselves honourably conspicuous out of the Society, or have been added to the list of fellows since my former publication. I need only mention their names, as I did those of a previous occasion—Lubbock, Airy, Peacock, Lyell, Rowland Hamilton, Whewell, Sedgwick, Daubeny, Ritchie, Buckland, De la Beche, Greenough, Murchison, Connybeare, to be certain of the general assent, which will place them by the side of their other eminent co-fellows in the path of fame.

I have not deemed it necessary to illustrate the SECOND SECTION with notes, because that part of the work which follows it is, in fact, a running commentary on that section.

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**Explanatory Note to page 118, line 11.**

It has been suggested to me by two or three friends, who have perused this part of my MS. that as I have deemed it necessary—in remarking upon the courage which led a certain individual to go forth to the ballot at the Royal Society a second time, after having been black-balled by a large majority—to allude to his conduct and that of his supporters, as personally injurious to myself—I ought to afford something like an explanation of the matter to my readers. I accede briefly to the suggestion. The individual in question did, in the year 1828, wreak his vengeance on the author of these pages—as a *supposed party* to the black-balling transaction which had excluded him from the Royal Society—by an act of the most glaring injustice, committed in open violation of certain rules laid down by his superiors. The official authority, which that individual possessed, at that time, over the medical department of the Navy, to which the author had belonged for the space of twenty years, was made use of against the *supposed* offender for that object,

and he was removed from the service (removed, too, without the slightest semblance of adhesion to the usual forms of the navy), on pretence that he had refused to serve, by not accepting an appointment as *supernumerary surgeon* in the WEST INDIES ! An appointment which, it was hoped, I imagine, would effectually remove a troublesome voter at the Royal Society. The author having memorialized the Board of Admiralty, on the injustice and hardship of his case—was met by the strenuous opposition of one of the supporters of the individual in question, who has made himself, more than once, conspicuous for his untameable hostility against the author, for having dared, occasionally, to impugn the prudence and sagacity of a certain quarterly publication, with which that Subordinate Official is intimately connected. The result of their combined manœuvres has been, that the author was defeated in his just expectation of seeing his wrongs redressed—and is now compelled to look to a higher tribunal for that justice, which the Board of Admiralty, under Sir James Graham, denied him. When that occasion arrives, a full historical statement of the whole transaction, containing names, correspondence, and illustrative facts, will be placed in the hands of every member of the Legislature, that they may see in what manner private *piques* are made the ground for tyrannical public measures, and a public disregard of justice. The question, on its broader basis, affects the whole medical service of the navy, the members of which have been treated by Government, in the application of certain official regulations, with a marked and injurious, as well as invidious distinction, from the manner in which those regulations have been applied to the medical officers of the land service.

# SENIORITY LIST

OF

## THE FELLOWS OF THE ROYAL SOCIETY,

FROM

*The beginning of the present Century to the Anniversary Meeting  
in Nov. 1835, a period of Thirty-five Years.*

<i>Date of Election.</i>	<i>Names.</i>	<i>Date of Election.</i>	<i>Names.</i>
1800.		1802.	
Jan. 9, T. Jones		Feb. 18, Astley Cooper	
16, J. C. Scott		25, Hon. G. Knox	
Feb. 6, Lord Henley		C. Burney, jun.	
Apr. 24, Right Hon. T. Pelham		Mar. 4, J. Liptrap	
May 8, A. Crichton, M.D.		11, J. Ware	
Earl of Exeter		Apr. 1, R. Fowler, M.D.	
15, Lieut.-Colonel J. Macdonald		May 6, Sir E. Knatchbull	
22, C. H. Parry, M.D.		E. Millington	
22, Gibbs W. Jordan		20, Marquess of Douglas	
C. M. Pole		Earl of Mansfield	
Lord Carrington		June 24, W. Cruickshank	
June 12, Sir J. C. Hippisley		July 1, G. Biggin	
19, J. Meyrick		8, John Trotter	
26, W. G. Maton, M.B.		Nov. 11, Lord W. Seymour	
Nov. 27, C. Dickenson		Viscount Castlereagh	
Dec. 18, Rev. W. Douglas		Dec. 9, D. Turner	
C. E. Carrington		16, R. Woodhouse	
Lieut.-Colonel Mich. Symes		23, Lord Minto	
Earl of Mountnorris		E. Hilliard	
1801.		1803.	
Jan. 8, Rev. H. Marsh		Jan. 13, Lord De Blaquier	
15, J. Turner		Feb. 10, Hon. F. G. Upton	
Feb. 26, M. Smith, Captain R.N.		17, Rev. M. Raine	
Mar. 5, Sir W. Stirling		Rev. T. Rackett	
R. Chevenix		24, Earl of Glandore	
12, J. Ellis		Mar. 3, H. Brougham	
Rev. E. Balme, M.A.		10, J. S. Smith	
26, E. Antrobus		T. Blizard	
Apr. 16, G. Isted		17, Rev. J. Brinkley	
G. Wilson		24, J. Pearson	
W. Long		J. Forbes	
23, M. Davy, M.D.		81, Viscount Charleville	
30, John Latham, M.D.		Apr. 28, Sir G. T. Staunton	
May 7, Rev. J. Hailstone		May 19, J. Wilson	
21, W. Bligh, Capt. R.N.		Nov. 17, Humphry Davy	
J. L. Williams		24, R. Gregory	
June 4, R. E. Roberts		1804.	
11, Lieut.-Colonel W. Gordon		Feb. 2, L. W. Dillwyn	
Rev. W. Nixon		23, G. Huntingford, Lord Bishop	
18, Edward Ash, M.D.		of Gloucester	
25, Warren Hastings		Mar. 1, C. Anker	
Nov. 12, Right Hon. C. Yorke		8, T. B. Howell	
Dec. 10, Rev. E. Forster		V. Conolly	
24, R. Wissett		15, Viscount Kirkwall	

<i>Date &amp;c.</i>	<i>Names.</i>
Apr. 12,	A. Carlisle, Surgeon
26,	Andrew Hutchinson, M.B.
May 10,	Rev. R. Narcs
17,	C. Short
31,	R. Robertson
June 7,	T. Harrison
21,	Sir T. Hanmer
Nov. 15,	Rev. F. Wrangham
Dec. 6,	Colonel T. H. Turner
	T. Hope
	J. Cockshutt
	13, T. Finch
1805.	
Jan. 31,	E. Rudge
Feb. 14,	G. P. Morris, M.D.
21,	Hon. Lieut.-Col. W. Blaquiere
Mar. 7,	R. Fergusson
14,	Hon. Lt.-Col. T. W. Fermor
21,	T. A. Knight
28,	W. Smith
	R. Holford
Apr. 25,	Lord Brownlow
May 3,	Earl of Bristol
23,	W. Babington, M.D.
30,	S. P. Rigaud
June 13,	T. Murdoch
July 4,	J. Barrow
	Earl of Dysart
Nov. 7,	E. L. Loveden
14,	J. Whidbey
21,	Baron Dimsdale
1806.	
Jan. 6,	J. Guillemard
	Rev. W. H. Carr
23,	H. L. Thomas
Feb. 13,	Sir C. M. Malet
20,	W. Smith, M.P.
27,	Right Hon. J. Forster
	R. Wigram
Mar. 13,	J. Horsburgh
20,	Sir R. Clayton
	Sir J. Nichol
	J. H. Arnold
May 1,	J. Griffiths
	Major E. Moor
	F. Buchannan, M.D.
15,	J. Kearney, Lord Bp. of Ossory
22,	Sir J. Hall, Bart.
June 12,	R. Sharp
	W. Higgins
19,	Charles Stirling
Nov. 13,	W. Penn
Dec. 18,	T. Reid
1807.	
Jan. 8,	Viscount Mahon
15,	H. Cline
22,	Hon. Major-General J. Leslie

<i>Date, &amp;c.</i>	<i>Names.</i>
Feb. 5,	J. Playfair
	G. T. Stratton
	G. Harrison
19,	T. Burgess, Lord Bishop of
	St. David's
26,	J. Pond
Mar. 5,	G. B. Greenough
	W. Garrow
12,	T. Combe
Apr. 16,	J. G. Children
23,	W. Gell
	W. Hodgson
	W. Jacob
May 7,	Earl of Winchelsea
	R. H. Jolly
14,	W. Blake
June 4,	Major-General R. Nicholson
11,	Colonel D. Humphries
Nov. 19,	W. Allen
Dec. 10,	L. H. Petit
17,	C. B. Trye
1808.	
Jan. 14,	J. P. Auriol
	A. Hamilton
28,	Earl of Bridgewater
	W. H. Pepys
Feb. 11,	R. Bree, M.D.
18,	Lord St. John
Mar. 24,	Earl of Mount Edgumbe
21,	Capt. J. Hope, R.N.
31,	J. M. Good
Apr. 7,	W. Watson
28,	Earl of Aberdeen
May 26,	J. Goldingham
June 2,	A. Marcett
	E. Astle
July 7,	Earl of Selkirk
Nov. 10,	W. H. White
24,	C. Chisholm, M.D.
Dec. 8,	G. Duckett
15,	J. De Salis
1809.	
Jan. 19,	A. Macleay
Feb. 9,	Lieut.-Colonel J. Rowley
16,	H. Warburton
	W. Henry, M.D.
23,	R. Willan, M.D.
	Lord Heathfield
Mar. 2,	E. F. Barnwell
9,	J. Gillon
23,	J. A. Noguier
Apr. 13,	W. T. Brand
	Earl Cowpes
May 11,	T. Smith
	Capt. J. Burney, R.N.
June 22,	Robert Bingley
Dec. 7,	Lord A. Beaucherc

*Date, &c. Names.*

- Dec. 21, C. Hoare  
Earl St. Vincent  
1810.  
Jan. 18, Charles König  
Feb. 1, George Canning  
15, Benjamin Brodie  
22, Sir R. Bickerton  
Mar. 8, Sir H. Halford  
15, G. Tuthill, M.D.  
E. Troughton  
J. Cotton  
Sparke, Lord Bp. of Chester  
22, Earl of Darnley  
May 10, Sir G. Shee  
Lieut.-Colonel T. Brisbane  
30, T. C. Hope, M.D.  
June 7, E. Stracey  
E. Thornton  
28, D. Moore  
W. A. Cadell  
July 5, Viscount Lowther  
J. W. Croker  
Rev. Robert Hodgson  
G. Ridge  
12, W. Wix  
R. Wharton  
Nov. 22, Sir A. Johnston  
Dec. 6, Hon. W. B. Lyon  
13, J. Robertson  
John Baker  
1811.  
Jan. 17, Viscount Milton  
Feb. 21, Right Hon. J. Corry  
J. Macartney  
28, Rev. W. Dealtry  
Mar. 7, Rev. J. Kaye  
14, Sir F. Baker  
J. Carstairs  
W. Wade, M.D.  
21, Rev. R. Dixon  
28, T. Thompson, M.D.  
W. Congreve  
Apr. 4, Marquess of Lansdowne  
R. Chalone  
T. Egan, M.D.  
May 16, J. Dent  
J. Elliot  
23, J. P. Anderdon  
G. Hibbert  
June 13, H. Ellis  
27, Sir W. S. Smith, R.N.  
July 4, T. Hoblyn  
30, Rev. T. Sampson  
Nov. 14, Rev. G. Rowley  
21, W. Ford Stevenson  
Dec. 5, E. H. Locker  
12, R. Brown

*Date, &c. Names.*

- Dec. 12, W. Franks  
19, John Randolph, Lord Bishop  
of London  
Lord Holland  
1812.  
Jan. 9, Rev. H. Hasted  
W. Jackson Hooker  
Feb. 20, C. H. Parry, M.D.  
27, Stephen Groombridge  
Mar. 5, Hon. H. Grey Bennet  
Hon. Augustus Phipps  
Wilson Lowry  
12, James Lawson  
Apr. 9, Rev. Ed. Dwyer  
16, Philip Crampton  
23, Benjamin Hall, M.P.  
Richard Ht. Davis, M.P.  
May 7, George Saunders  
J. E. E. Wilmot  
14, Samuel Solly  
28, William Spee  
June 11, H. J. Campbell  
R. Bewick Bridge  
18, Ed. Morris  
Nov. 5, A. J. D. Arget De Montyon  
19, W. E. Tomline  
26, Henry Salt  
Dec. 10, George Hare  
17, Peregrine Ed. Towneley  
24, W. Wood  
1813.  
Jan. 11, George Pemberton  
Feb. 25, John Fleming, M.D.  
Rev. Samuel Wix, A.M.  
Mar. 4, Robert Harry Inglis  
11, Richard Simmons, M.D.  
18, John Johnstone, M.D.  
Apr. 8, William Hamilton  
Lieut.-Colonel T. Hardwicke  
Pelham Warren, M.D.  
May 6, Chas. Chetwynd, Earl Talbot  
27, J. F. W. Herschel, A.M.  
June 24, William Vaughan  
Nov. 11, Sir James Macintosh, Knt.  
Rev. W. Magee, D.D.  
Leonard Horner  
W. Lawrence  
1814.  
Feb. 10, Rev. Peter Elmaley, A.M.  
17, John Davy, M.D.  
24, G. H. Law, Lord Bishop of  
Chester  
Mar. 3, Robert W. Hay  
10, John Sims, M.D.  
17, John Dickenson  
24, Mark Isambard Brunel  
May 5, Sir Thomas Neave, Bart.

<i>Date, &amp;c.</i>	<i>Names.</i>
May 5,	John Yelloly, M.D. Sir C. W. R. Broughton, Bart. W. E. R. Broughton J. Frederick Daniell
19,	Rt Rev. Thomas F. Middleton, Lord Bishop of Calcutta John Cam Hobhouse Nicholas Carlisle
June 9,	John Weyland, jun. Lord Ducie
16,	Le Chevalier Italinsky
23,	The Hon. Courtenay Boyle Dugald Stewart
30,	Captain F. Beaufort, R.N.
Nov. 10,	Robert Seppings
17,	Rev. William Deane Rev. James Rudge
Dec. 15,	Captain Henry Kater William Rashleigh
28,	Rev. C. Parr Burney
1815.	
Jan. 19,	Peter Patten Bold Henry Holland, M.D.
Feb. 16,	Thomas Grey, M.D.
23,	John Whishaw
Mar. 2,	Sir W. F. Elliott, Bart. George H. Hartopp James Dawkins Lieut.-Colonel James Cocks
16,	Peter Mark Roget, M.D. Phineas Bond Rev. George D'Oyley
Apr. 6,	T. Allan John Haighton, M.D. James Ivory, M.A.
13,	Sir G. Mackenzie, Bart. Major W. M. Leake
27,	T. W. Carr John Rickman
May 4,	David Brewster, LL.D.
11,	W. Harrison
June 1,	Barrington P. Blachford C. Mackenzie T. Lister Parker
8,	Sir George Warrender, Bart.
15,	John D. Phelps
Nov. 9,	W. H. Fitton, M.D.
16,	Hon. J. W. Ward Benjamin Travers
23,	Rog. Pettiward
Dec. 14,	H. Beaufoy
21,	Sir Christopher Hawkins, Bt. S. Turner
1816.	
Jan. 11,	George, Lord Byron Rev. James Cumming C. Broderip

<i>Date, &amp;c.</i>	<i>Names.</i>
Jan. 25,	Col. Sir Howard Douglas, Bt.
Feb. 8,	Michael Bland
15,	W. Elford Leach, M.D. Bernard, Duke of Norfolk F. Baron Gray
22,	H. F. Colebrooke
29,	Sir James Fellowes, M.D. Frederick Pollock Rev. James Hook, LL.D.
Mar. 7,	Lieut.-Colonel J. Handfield Lieut.-Colonel C. W. Pasley
14,	C. Babbage Rev. Joseph H. Batten, M.A. J. Becket Sir James Macgrigor, Knt.
28,	Captain Basil Hall, R.N. J. Heywood Markland
April 4,	Rev. Samuel J. Gardiner
25,	J. Kingston T. Smith
May 2,	Right Hon. W. V. Fitzgerald
23,	Rev. H. H. Baber, A.M. David Hosack, M.D.
30,	C. Morgan
June 20,	Lt.-Col. Sir Augustus Frazer H. Dalton
27,	John S. Stanhope John Storer, M.D.
July 4,	Rev. A. Thursby, A.M.
Nov. 7,	Hon. G. Agar Ellis
21,	Lt.-Col. Stephen R. Chapman
1817.	
Jan. 9,	Lieut.-Colonel W. Lambton
23,	Edward Harmer
Feb. 13,	Joseph C. Carpue
Mar. 6,	W. F. Henry, Lord Petre
13,	Edward French Bromehead
20,	F. S. Raffles
27,	W. Macmichael, M.D. H. John, Lord Selsey
Apr. 24,	Sir William Burroughs, Bart.
May 1,	Hon. F. Douglas J. A. Warre
15,	Robert, Viscount Melville Rev. J. W. Mackie, M.A.
June 5,	Hugh, Viscount Ebrington Lieut.-Colonel John Baillie Peter E. Turnbull
12,	Thomas Legh Rev. R. J. Maddy, D.D. Macvey Napier John Reeves
19,	George, Viscount Torrington
26,	J. R. Johnson W. Strutt
Nov. 20,	A. B. Granville, M.D.
Dec. 11,	W. Somerville, M.D.

<i>Date, &amp;c.</i>	<i>Names.</i>
Dec. 18, 1818,	Sir Gore Ouseley, Bart.
Jan. 8,	John, Marquess of Bute Joseph Hume
15,	Hudson Gurney
29,	John T. Mayne George Peacock Rev. G. F. Tavel, M.A.
Feb. 26,	Rev. W. Buckland Rev. E. J. Burrow Rev. H. Drury, M.A. Sir J. E. Swinburne, Bart.
Mar. 5,	J. Croft Rev. W. Kirby, A.M. Rev. R. Malthus
12,	C. Badham, M.D. Captain E. Lloyd, R.N. W. Tooke
Apr. 2,	John Bostock, M.D.
9,	Algernon, Lord Prudhoe Lord James Murray
16,	Captain Edward Sabine
23,	W. Wyndham, Lord Grenville
30,	William Beatty, M.D. Francis Chantrey
May 2,	T. Crawford
28,	Joseph Baretto Joseph Corrie George Craufurd Heath
June 11,	W. T. Money Rev. Thos. D. Whittaker, D.D.
Nov. 5,	Earl of Macclesfield
12,	Frederick B. Watson Rev. J. H. Barnwell
Dec. 10,	Francis, Lord Churchill
17,	Major Robert Torrens
1819.	
Jan. 14,	Charles Tweedie
21,	Sir Robert Barlow Rev. J. Brooke, A.M.
29,	G. G. Currey, M.D. Benjamin Gompertz Thomas Phillips Jos. Spratt Rainier, Capt. R.N.
Feb. 4,	J. Lack Forster James Harris
11,	Henry Ellis Rev. R. Hamilton, D.D. F. Lunn, A.B.
18,	T. Chevalier Charles Hervey Sir Murray Maxwell, R.N. Archibald, Earl of Cassilis
25,	G. Ormerod
Mar. 11,	Clarke Abel, M.D. T. Greatorex W. Prout, M.D.

<i>Date, &amp;c.</i>	<i>Names.</i>
Mar. 18,	John Fisher, Lord Bishop of Salisbury
Apr. 1,	Archib. John, E. of Roseberry H. E. Stockler
22,	Captain F. Marryat, R.N.
May 13,	Henry J. Brooke
20,	Robert, Lord John Campbell G. Butler, D.D. Lieut.-Colonel J. H. Cooper
27,	Sir George Clerk, Bart.
June 10,	H. Bellenden Ker Lt.-Colonel Colin Mackenzie
24,	G. Magrath, M.D. J. Ramsbottom
July 1,	Rev. W. Pearson, LL.D. G. D. Yeates, M.D.
Nov. 11,	Rev. G. Hunt, M.A. Rev. H. Walter, B.D.
18,	Joshua Brooks
25,	Rev. J. D. Hustler, B.D. A. Le Merchant Joseph Smith
Dec. 9,	Rev. W. D. Conybeare G. L. N. Colingwood
16,	J. Ives
23,	H. J. De la Beche G. Dollond
1820.	
Jan. 13,	Lieut.-Col. J. Fitz-Clarence
20,	R. Farquhar
Feb. 17,	Rev. J. Corrie
Mar. 2,	Sir J. Sewell, LL.D. Rev. H. Card, M.A.
16,	Lieut.-General A. Kydd Lieut. Matthew Curling Field
23,	J. P. Higman C. M. Ricketts Rev. J. Sleath, D.D.
Apr. 13,	Captain Colby, Royal Eng. Lieut.-Colonel Sir J. Tylden W. Whewell, A.M.
20,	Rev. F. Haggitt, D.D. F. Phillpotts
27,	John Hall H. Goulburn
May 4,	Rt. Hon. Sir E. Nepean, Bt. G. H. Noehden, LL.D.
18,	L. L. Clarke, A.M. W. Franklin, M.D. J. M'Culloch, M.D. Capt. H. Napier, R.N.
June 8,	Rev. F. Fallows, A.M. T. F. Lewis
Nov. 16,	John Viscount Althorp J. G. Shaw Lefevre J. D. Thomson
Dec. 7,	J. Watt

<i>Date, &amp;c.</i>	<i>Names.</i>
Dec. 14,	W. Swainson
21,	Vice Adm. Sir G. Cockburn
1821.	
Jan. 18,	Charles Stokes
Feb. 1,	William Camac
8,	Rev. A. Sedgewick, A.M.
	Francis Bauer
	T. Gordon
	Zachary Macauley
15,	Capt. W. G. Parry, R.N.
	James South
22,	F. Baily
	Ed. Forster
Mar. 1,	Rev. P. Jennings
8,	Hon. F. Strangways
	F. Shaw Brandreth
	J. L. Bicknell
	B. Bright, M.D.
	H. Hallam
	L. Howard
	G. Wilbraham
15,	W. Bridgeman
22,	Rev. F. Dibdin
22,	Thomas Tooke
29,	J. Andrew, LL.D.
April 5,	Rev. E. Cartwright, D.D.
12,	Rev. M. Bland, B.D.
May 17,	C. Monro
24,	W. Cotton
	E. Hawkins
	C. H. Turner
	R. J. Wilmot
31,	Rev. J. Cotton, B.D.
June 7,	J. Coley
	W. S. Clarke
	J. W. Russell
	J. Stodart
21,	J. A. Paris, M.D.
28,	A. Majendie
July 5,	J. Knowles
12,	J. Francks, M.D.
Nov. 15,	F. Cohen
	G. Haughton, M.A.
	Sir J. W. Lubbock, Bart.
	J. Soane
Dec. 6,	J. Cooke, M.D.
13,	Andrew Ure, M.D.
20,	Sir J. E. Colebrooke, Bart.
	J. Thompson
1822.	
Feb. 7,	Right Hon. N. Vansittart
21,	W. Nairn Forbes
28,	Capt. R. Batty
	Sir Thomas Lawrence, Knt.
Mar. 7,	J. Dalton
14,	J. Buttor
21,	Richard Phillips

<i>Date, &amp;c.</i>	<i>Names.</i>
Mar. 21,	G. Rennie
	F. Webb
28,	W. John Banks
	J. F. Davis
	J. Kidd, M.D.
April 18,	H. Earle
25,	Rev. F. Rennell, D.D.
May 25,	Sir C. Lemon, Bart.
June 13,	Capt. D. Ross, R.N.
27,	Rev. Samuel Butler
	H. Barne Sawbridge
Nov. 7,	William E. of Dartmouth
	G. Townley
14,	L. Edgeworth
	T. Snodgrass
	Charles A. Tulk
21,	Rear Ad. Sir E. Codrington
Dec. 5,	Right Hon. R. Peel
	Sir J. Fenton Boughey
	Capt. R. Zachary Mudge
19,	C. Daubeny, M.D.
1823.	
Jan. 9,	J. H. Vivian
Feb. 13,	J. Baron, M.D.
20,	Capt. J. Franklin, R.N.
May 1,	Hugh D. of Northumberland
8,	W. Clift
29,	Peter Barlow
	Arthur C. Brooke
	J. Scandret Harford
	Rev. Lewis Evans
	I. R. Solly
	Rev. J. M. Traherne
June 12,	John Rennie
19,	Major-Gen. Sir J. Murray
Nov. 20,	J. Bayley
	Rev. D. Creswell, D.D.
27,	A. Mervin Storey, M.A.
1824.	
Jan. 8,	M. Faraday
15,	C. Scudamore, M.D.
22,	T. Amyott
Feb. 5,	W. Wavell, M.D.
19,	Rev. E. Maltby, D.D.
26,	Jno. Jebb, Ld Bp. of Limerick
	Captain P. P. King, R.N.
	Major-Gen. Sir J. Malcolm
Mar. 4,	Horatio, Earl of Orford
	W. Parish
11,	Sir F. Shuckburgh
	E. H. Lushington
Apr. 1,	Rev. E. Goodenough, D.D.
8,	John Gage
29,	C. Mackintosh
	Rev. W. Vernon
May 6,	Lieut. H. Fraser, R.N.
13,	Captain Clavering, R.N.



<i>Date, &amp;c.</i>	<i>Names.</i>	<i>Date, &amp;c.</i>	<i>Names.</i>
May 13,	Rev Baden Powell	Nov. 15,	Charles Bell
	Major C. H. Smith	Dec. 7,	G. P. Scrope
June 3,	John Thomson, M.D.	1827.	
17,	William Scoresby	Feb. 1,	T. J. Pettigrew
Nov. 18,	Richard Penn		C. Moreau
Dec. 16,	John Bell	8,	J. J. Pritchard, M.D.
	Sir C. Wetherell		Rev. C. Mayo
23,	Captain T. W. Beechey, R.N.	Mar. 1,	Captain G. Everest
1825.		8,	A. Melville
Jan. 20,	Captain J. Mangles, R.N.	22,	Viscount Mahon
27,	Rev. G. Fisher, M.A.	29,	J. Blackman, M.D.
Feb. 3,	Viscount Strangford	Apr. 26,	H. R. H. Duke of Clarence
17,	H. Hervey	May 10,	J. E. Bicheno
24,	J. H. Green		R. Blanshard
	J. Richardson, M.D.	24,	Edward Pendarves
Mar. 3,	Dr. J. L. Tiarks		Lieut.-Colonel G. Miller
10,	Maj.-Gen. Sir B. D'Urban		John Harwood, M.D.
Apr. 14,	H. H. Southey, M.D.		G. Guthrie
21,	E. Home, Captain R.N.		Major-General Wavell
May 5,	G. Hervey	31,	T. Telford
	J. Smirnov	June 14,	W. Alexander Mathison
	J. Taylor	July 24,	Sir W. W. Wynn
12,	Rev. R. Morrison, D.D.	Nov. 15,	W. Phillips
June 9,	C. Mansfield		Major Beamish
Nov. 24,	Gideon Mantell		Captain G. Lyon, R.N.
1826.		22,	T. H. Hall
Jan. 12,	G. Canning	1828.	
	S. Christia	Jan. 10,	W. Beetham
	N. B. Edmonstone		Thomas Bell
	J. Hawkins		T. Horsefield, M.D.
19,	Edmund Davy	17,	Rev. H. P. Hamilton
Feb. 2,	Captain James Franklin		John Lindley
	James Holman, R.N.	Feb. 14,	W. J. Broderip
	C. Lyell	21,	Rev. W. F. Bayley
	James Ogle, M.D.	28,	Rev. D. Lardner, LL.D.
9,	Rev. R. Carleton	Mar. 6,	J. Williams, junior
16,	G. Watson Taylor	13,	W. F. Chambers, M.D.
23,	Lieut.-Gen. Donkin		A. C. Hutchinson
	Rev. A. Nicoll		J. L. Goldsmid
	N. A. Vigors		A. R. Sutherland, M.D.
	Colonel M. Wilks	20,	B. G. Babington, M.D.
Mar. 9,	W. R. Douglas	27,	Right Hon. C. Grant
	W. Pearson	Apr. 17,	Viscount Goderich
	Thomas Weaver		Herbert Mayo
16,	W. Mylne		John Walker
Apr. 6,	R. Murchison	24,	The Duke of Cumberland
13,	Sir J. Copley Knt.	May 8,	W. Ritchie, M.A.
	John Sharpe	22,	The Duke of Sussex
20,	Right Hon. Sturges Bourne	June 5,	E. Barnard
May 4,	L. A. De la Chaumette		R. Daniell
11,	A. P. Wilson Philip, M.D.		M. W. Clifton
25,	R. Jameson	12,	Rev. J. Fowhall, M.A.
June 1,	Sir G. Nayler	Nov. 20,	Major P. Thompson
8,	Major D. Denham		J. Prinsep
	Sir R. Vyvyan, Bart.		J. Simon Borlase
15,	Nic. Brown	Dec. 11,	Andrew Baird, M.D.
	Captain Smyth		James Ross, R.N.

K K

<i>Date, &amp;c.</i>	<i>Names.</i>
1829.	
Jan. 15,	J. W. Lubbock Viscount Cole J. R. Stuart
Feb. 5,	J. Forbes, M.D. Rev. A. Crombie, LL.D.
12,	Rev. H. Coddington, M.A. G. Evelyn
19,	C. Tenyson
26,	W. F. Edwards, M.D. J. Maxwell, M.P. A. Wollaston, M.B.
Mar. 5,	Captain C. Phillips, R.N.
12,	H. Hennell Nathaniel Wallich, M.D.
19,	J. Elliotson, M.D. Cap. Hutchinson, (Bengal Ser.)
Apr. 9,	Baron de Dunsterville W. Pole David Pollock
May 28,	E. Maitland
June 4,	Rev. J. Bosworth Honorable Stuart Wortley
18,	Bransby Cooper
Nov. 26,	J. Robinson
Dec. 10,	W. Cavendish
1830.	
Jan. 14,	Captain Colquhoun, R.A.
28,	George Douglas Rev. J. Farquharson
Feb. 11,	D. Broughton John Shaw
18,	C. Collier J. William Moss W. Nicholl, M.D.
Mar. 4,	Captain B. Blake, E. I. C. F. C. Knowles Edward Turner, M.D.
11,	J. A. Lloyd Edward Hanley
18,	W. G. Meredith, A.M. J. J. Audubon J. L. Knight
25,	Robert Lee, M.D.
Apr. 1,	C. Baring Wall John Burns, M.D. W. Cubitt Rev. R. Sheepshanks
22,	Rev. R. Willis Captain J. Grover
May 6,	Major-General J. Stratton J. Vetch P. Pusey
27,	Sir J. Wyattville J. Woolmore Ralph Watson Spencer, M. of Northampton

<i>Date, &amp;c.</i>	<i>Names.</i>
June 10,	J. H. Hawkins Rev. R. Greswell Josiah J. Guest Isambard Brunel
Dec. 9,	Henry Percy Gordon Rev. J. Warren
23,	James Smith
1831.	
Jan. 19,	Earl of Selkirk
20,	J. Blake
Feb. 24,	J. Carr, Ld. Bp. of Chichester J. Wilson, M.D. J. Lee, LL.D.
Mar. 3,	Rev. B. Walker
10,	Sir P. Egerton A. Caldecleugh J. Morris
17	C. Talbot Rev. T. Turnbull Joseph Hodgson
Apr. 14,	Sir M. A. Shee, Knt.
21,	J. Henderson
28,	H. Fox Talbot
May 5,	C. J. Beverley
12,	Captain G. N. Manby, R.N.
June 2,	W. S. Harris W. Wilkins
9,	Edward Coleman Hon. F. de Roos
16,	G. Davies
Dec. 8,	T. Maclear P. Hardwick Right Hon. Lord Oxmantown H. R. Palmer
22,	Right Hon. Sir J. Graham
1832.	
Feb. 2,	C. O. Morgan J. J. Lister Hon. W. F. S. Ponsonby Capt. Sir S. B. Pechell, R.N. F. Madden J. E. Gray A. Barry H. Gravatt
April 5,	Marshall Hall, M.D. A. J. Stephens Sir W. Russell, Bart. M.D. Sir David Barry, M.D. C. B. Elliott
June 7,	Lord Spencer Churchill Honorable G. C. Agar J. Disney James Clark, M.D. James Hope, M.D. Venerable G. Glover, M.A. M. G. Sadler Lt. W. S. Stratford, R.N.

*Date, &c.*                      *Names.*

- June 7, J. D. Forbes  
Howard Elphinstone
- Dec. 6, Decimus Burton  
C. P. Cooper, LL.D.  
G. A. Sanford
- 1833.
- Feb. 7, Very Rev. G. Chandler, D.D.  
W. Greig, M.A.  
Rev. F. Nolan, LL.D.
- April 18, Sir W. Burnett, M.D.  
F. Botfield  
Major S. Clerke,  
R. A. Dundas  
Rev. A. P. Saunders  
F. S. Davies
- May 2, Earl of Darnley
- June 6, Captain Libou, R.N.  
20, Duke of Buccleugh  
Sir T. Denman
- Dec. 5, J. Copland, M.D.  
E. Pearson  
C. Terry
- 1834.
- Jan. 9, Earl of Tyrconnel
- Feb. 6, Captain Chesney  
T. Copeland  
Right Hon. Sir E. Cust  
J. Horne  
John Reeves  
Lieut.-Colonel Sykes  
J. Waterhouse
- April 10, Viscount Adare  
C. Ansell  
Felix Booth  
Lieutenant A. Burnes  
T. Corbaux  
Sir W. B. Folkes  
J. W. Freshfield  
J. D. Gilbert  
E. Griffith  
E. Halswell  
W. C. Henry, M.D.  
R. Hudson  
Rev. W. Lloyd, M.A.  
J. Phillips  
Captain W. R. Smee  
W. Spence  
H. S. Thornton  
J. Warburton, M.D.  
H. H. Wilson
- June 5, Marquis of Breadalbane  
Lord Teignmouth  
Hon. G. Elliott, Capt. R.N.  
Rev. F. W. Hope, M.A.

*Date, &c.*                      *Names*

- June 5, J. Jekyll, jun. M.A.  
Rev. M. Murphey  
Honorable Sir George Rose  
R. Twining  
W. R. Wharton  
George Witt, M.D.
- Dec. 18, Rev. J. Barlow  
Rev. W. Bellamy  
W. Brockenden  
T. Galloway  
B. Hawkins, M.D.  
Colonel A. Leith Hay  
F. Keirnan  
G. Lowe  
R. Owen  
B. Phillips  
R. Saumarez  
C. J. K. Tynte  
J. G. Wilkinson
- 1835.
- Feb. 5, A. W. Beetham  
J. Edge  
J. Hamett, M.D.  
J. G. Harris  
Rev. H. Tatham, M.A.  
M. Tupper
- April 2, J. Barnes, M.D.  
J. Delafield  
G. W. Featherstonehaugh  
J. A. Gordon, M.D.  
Colonel S. R. J. Harvey  
T. Leybourne  
G. Moore  
A. Morgan  
C. H. Oakes  
J. H. Pelly  
R. Taunton, M.D.  
W. Tite  
S. Warren  
J. Wigram  
C. J. B. Williams, M.D.
- June 4, G. B. Beaumont  
W. Borrer  
J. Davidson  
Sir R. Dobson, Knt.  
T. Jones  
T. Mayo, M.D.
- June 4, B. Oliviera  
Captain W. Symonds, R.N.
- Nov. 19, Rev. W. B. L. Hawkins  
26, R. Alexander  
C. Elliott  
Sir W. Molesworth, Bart.

# ALPHABETICAL LIST

## OF

### THE FELLOWS OF THE ROYAL SOCIETY,

*From January, 1800, to the Anniversary Meeting, 1835.*

<b>A.</b>		Barry, A. .... 1832	Bligh ..... 1801
Abel. .... 1819	Barry, D. .... 1832	Blizard. .... 1803	Bold ..... 1814
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Adare, Visc. .... 1834	Batty ..... 1822	Booth ..... 1834	Borlase . .... 1824
Agar ..... 1832	Bauer ..... 1821	Borrer . .... 1835	Bosworth ..... 1829
Allan ..... 1815	Bavaria, Duke of . . 1802	Botfield ..... 1833	Boughay ..... 1822
Allen ..... 1807	Bayley . .... 1823	Boughton, R. .... 1814	Boughton, W. .... 1814
Althorp ..... 1820	Bayley . .... 1828	Bourne ..... 1826	Bournon, Conte de . 1802
Amyot ..... 1824	Beamish ..... 1827	Bowditch ..... 1818	Bostock ..... 1818
Andrew ..... 1821	Beatty ..... 1818	Boyle ..... 1814	Brande ..... 1809
Anderdon ..... 1807	Beauchlerc, Lord . . 1809	Boughton, R. .... 1814	Brandreth ..... 1821
Anker ..... 1804	Peaufort ..... 1814	Bourne ..... 1826	Breadalbane. .... 1834
Audubon ..... 1830	Beaufoy ..... 1815	Bournon, Conte de . 1802	Bree ..... 1808
Ansell ..... 1834	Beaumont ..... 1835	Bowditch ..... 1818	Brewster. .... 1815
Antrobus ..... 1801	Beche ..... 1819	Bostock ..... 1818	Bridge. .... 1812
Arnold ..... 1806	Becket ..... 1816	Boyle ..... 1814	Bridgeman ..... 1821
Ash ..... 1801	Beckett ..... 1808	Brande ..... 1809	Bridgewater, Earl of 1808
Astle ..... 1808	Beechey ..... 1824	Brandreth ..... 1821	Bright ..... 1821
Auriol ..... 1808	Beetham ..... 1828	Breadalbane. .... 1834	Brinkley ..... 1803
<b>B.</b>		Bree ..... 1808	Brisbane ..... 1810
Babbage ..... 1816	Beetham ..... 1835	Brewster. .... 1815	Bristol, Earl of .... 1805
Babbington ..... 1805	Bell ..... 1824	Bridge. .... 1812	Brockendon . .... 1834
Babbington ..... 1828	Bell ..... 1826	Bridgeman ..... 1821	Broderip ..... 1816
Badham ..... 1818	Bell ..... 1828	Bridgewater, Earl of 1808	Broderip ..... 1828
Baillie ..... 1817	Bellamy ..... 1834	Bright ..... 1821	Brodie. .... 1810
Baily ..... 1821	Bellenden ..... 1819	Brinkley ..... 1803	Bromehead . .... 1817
Baird ..... 1828	Bennet ..... 1812	Brisbane ..... 1810	Brooke ..... 1819
Baker ..... 1810	Beverly ..... 1831	Bristol, Earl of .... 1805	Brooke ..... 1823
Baker ..... 1811	Bicheno ..... 1827	Brockendon . .... 1834	Brooks ..... 1819
Balme ..... 1801	Bickerton ..... 1810	Broderip ..... 1816	Brougham ..... 1803
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Baretto. .... 1818	Biggin ..... 1802	Brodie. .... 1810	Browne ..... 1811
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Barlow ..... 1834	Blackman ..... 1814	Brooke ..... 1823	
Barnard ..... 1828	Blake ..... 1807	Brooks ..... 1819	
Barnes ..... 1835	Blake . .... 1830	Brougham ..... 1803	
Barnwell ..... 1809	Blake ..... 1831	Broughton ..... 1830	
Barnwell ..... 1818	Blanchard ..... 1827	Browne ..... 1811	
Baron ..... 1823	Bland ..... 1816	Brown ..... 1826	
Barrow ..... 1805	Bland ..... 1821		
	Blacquiere, Lord de . 1803		
	Blaquiere ..... 1805		

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Buchanan .....	1806	Churchill .....	1818	Darnley, E. of .....	1810
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Burgess .....	1807	Clarence, Duke of ..	1827	Dartmouth, E. of ..	1822
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Burney .....	1809	Clark .....	1832	Davies.....	1833
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Burrow .....	1818	Clifton .....	1828	Davy .....	1814
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Caldcleugh .....	1831	Coleman.....	1831	Dibdin .....	1821
Caley .....	1821	Collier .....	1830	Dickinson .....	1800
Camac .....	1821	Collingwood .....	1819	Dickinson .....	1814
Campbell .....	1812	Colquhoun .....	1830	Dickson .....	
Campbell .....	1819	Combe .....	1807	Dillwyn .....	1804
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Canning .....	1826	Conolly .....	1804	Disney .....	1832
Card .....	1820	Conybeare .....	1819	Dobson .....	1835
Carleton .....	1826	Cooke.....	1821	Dollond .....	1819
Carlisle .....	1814	Cooper .....	1819	Donkin .....	1826
Carne .....	1818	Cooper .....	1829	Douglass.....	1800
Carpue .....	1817	Cooper .....	1832	Douglass, M. of ...	1802
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Carr .....	1815	Copeland .....	1834	Douglas .....	1817
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 Fitton . .... 1815  
 Fitzclarence . .... 1820  
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 Fleming . .... 1813  
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 Forster . .... 1806  
 Forster . .... 1819  
 Forster . .... 1821  
 Fowler . .... 1802  
 Franklin . .... 1823  
 Franklin . .... 1826  
 Franks . .... 1821  
 Franks . .... 1811  
 Fraser . .... 1816  
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 Friend . .... 1820

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 Goldsmid . .... 1828  
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 Goodenough . .... 1824  
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 Gordon . .... 1835  
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 Hippisley . .... 1800  
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 Hodgson . .... 1807  
 Hodgson . .... 1831  
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 Hope . .... 1834  
 Horsburg . .... 1806  
 Hosack . .... 1816  
 Houghton . .... 1815  
 Howard . .... 1821  
 Howell . .... 1804  
 Hudson . .... 1834  
 Hume . .... 1813  
 Humphries . .... 1807  
 Hunt . .... 1819  
 Huntingford, Bp. of 1804  
 Hustler . .... 1819  
 Hutchinson . .... 1804  
 Hutchinson . .... 1828  
 Hutchinson . .... 1829

## I. and J.

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 Jameson . .... 1826

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Inglis .....	1813	Lowry .....	1812	Molesworth .....	1835	
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Johnson .....	1817	Lunn .....	1819	Monro .....	1821	
Johnstone .....	1810	Lushington .....	1824	Montyon, De .....	1812	
Johnstone .....	1813	Lyon .....	1827	Moor .....	1801	
Jones .....	1800			Moore .....	1810	
Jones .....	1835			Moore .....	1835	
Jordan .....	1800	M.			Moreau .....	1827
Isted .....	1801	Macaulay .....	1821	Morgan .....	1816	
Ives .....	1819	Macclesfield, Earl of ..	1818	Morgan .....	1832	
Ivory .....	1815	Maccartney .....	1811	Morgan .....	1835	
K.		Macleay .....	1809	Morne .....	1819	
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1. AN ACCOUNT of the physical and chemical Properties of the Malambo Bark, a species of *Wintera*, lately introduced into the Materia Medica, from America. 8vo. London, 1816.
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14. THE MEDICAL INTELLIGENCER. 2nd Vol. 8vo., for 1821. London.  
 \*.\* This volume, which contains 688 pages of analytical and critical matter, was wholly written by the author anonymously, upon a plan entirely new and different from that of every other Journal which preceded it—and led the way, in frankly exposing abuses, for the *Lancet*, and other imitations of that clever and highly useful periodical, which still holds its pre-eminence in hebdomadal medical literature.
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\*.\* The author was engaged seven years on this work, which was published by subscription to the extent of 500 copies, and the plates were afterwards destroyed. It had cost the Author £400.







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